



Education and Science

Eğitim ve Bilim

October: 2025 Vol: 50 Issue: 224 / Ekim: 2025 Cilt: 50 Sayı: 224



Education and Science

Eğitim ve Bilim

1300-1337

Vol 50, Issue 224, 2025

Eğitim ve Bilim

Education and Science

Owner on behalf of the Turkish Education Association (TEA) Economic Enterprises

Sinan Selçuk PEHLİVANOĞLU

Education and Science is official journal of Turkish Education Association. Since Education and Science is a peer-reviewed journal, only research articles are given place. Manuscripts submitted to the journal, primarily reviewed by the editors and associate editors, are forwarded to 2 reviewers specialized in related content areas for more detailed evaluation. Education and Science Journal is published quarterly. Education and Science Journal strives for increasing number of academic studies that offer concrete solutions for various areas of education that requires improvements, for all levels of education starting from pre-school up to university level, and that provide support for improvements in the field of education, and that could make contribution to professional improvement of teachers and academicians.

Editors in Chief

Ahmet Doğanay, Prof. Dr., Çukurova University, Türkiye
Cennet Engin, Prof. Dr., Middle East Technical University, Türkiye
Emine Erkin, Prof. Dr., Boğaziçi University, Türkiye
Işıl Kabakçı Yurdakul, Prof. Dr., Anadolu University, Türkiye
Jale Çakıroğlu, Prof. Dr., Middle East Technical University, Türkiye
Yüksel Kavak, Prof. Dr., TED University, Türkiye

Production Editor

Mine Metin, Turkish Education Association, Türkiye

Education and Science Online Access Web:
<http://egitimvebilim.ted.org.tr>
e-mail: egitimvebilim@ted.org.tr

Publish Date: October 2025

Education and Science is indexed in Social Sciences Citation Index (SSCI), Scopus, ProQuest, EBSCO Host, and TR Dizin.

Publication Type: Quarterly Published Academic Journal

Adress: Turkish Education Association (TEA) Economic Enterprises (Türk Eğitim Derneği İktisadi İşletmesi), TED Ankara Koleji Vakfı Okulları İncek Kampüsü Taşpınar Mah. 2800. Cadde No: 5 F Blok İncek - Gölbaşı / Ankara, Türkiye

Phone: +90 (312) 939 50 82 **Fax:** +90 (312) 417 23 74

Print: Teknoart Digital Ofset Reklamcılık Matbaacılık İthalat İhracat Sanayi ve Ticaret Ltd. Şti.

Adress: Cevizlidere Mah. 1288. Sokak No:1/1 Balgat, Çankaya/Ankara, Türkiye

Certificate No: 47644 | **Phone:** +90 (312) 473 92 97 | **e-mail:** info@printandsmile.com.tr



- 1 Student physical activity, lesson context, and teacher behaviour in preschool movement activity practices
İsmail Çiçek, Leyla Saraç
- 23 Flipped learning model practices in social studies course in primary school
Can Uyanık, Ömür Gürdoğan Bayır, Mehmet Gültekin
- 75 The process of writing fairy tale parodies with a process-genre-based approach for elementary school students: a mixed methods study
Seval Çiğdemir
- 101 Analysis of studies on transition to primary school in Türkiye: a meta-synthesis
Hatice Uysal Bayrak, Muhammet Baştuğ
- 131 How middle school students learn new words in their native language: an empirical study of vocabulary learning strategies
Muhammet Memiş
- 169 Self-mention in L1 and L2 Turkish research articles: realizations, functions and distributions
Ruhan Güçlü
- 199 Historical evolution of the regional understanding of geography curricula: tradition and change
Bahaddin Şahin
- 227 Regional differences in teaching and research exchange based on social network analysis: a case study of geography teachers in city A and county B of Jiangsu province
Yiwen Tong, Ling Yuan, Qian Luo, Shui Li, Zhiqiang Yuan, Chengfu Ye, Jin Ji, Xiaoxu Lu
- 247 The mediating role of psychological capital in the relationship between effective counselor characteristics and subjective well-being at work and professional quality of life
Seda Gündoğdu, Fatma Sapmaz
- 279 Determinants of public education spending in the Turkish provinces
Ebru Çağlayan Akay, Mustafa Çelen, Serdar Yılmaz



Student physical activity, lesson context, and teacher behaviour in preschool movement activity practices *

İsmail Çiçek ¹, Leyla Saraç ²

Abstract

Physical activity greatly enhances preschool children's overall development (physical, psychological, social, academic, etc.). Therefore, it is important to identify what is happening in the learning environments of preschool children in physical activity practices, who spend a significant part of their day in a controlled and planned environment within a school setting. Given this importance, this study aimed to compare students' levels of physical activity, types of physical activity, curricular lesson context/content, and teachers' involvement and teacher promotion in preschool Movement Activity practices in public and private preschools in Türkiye. The study involved 50 female preschool teachers, 23 working in public schools and 27 in private schools, selected by convenience sampling. Data were collected using the System for Observation of Physical Education Lessons and the System for Observation of Physical Education Lessons for Preschoolers. The results showed that children in both public and private schools spent most of their practice time sitting (public 49.22%, private 47.88%) and standing (public 39.80%, private 42.54%) during Movement Activity practices included in the preschool curriculum. It was also observed that in most of the practice time during the movement activities, the type of physical activity was lying/sitting/standing/squatting (public 81.8%, private 84.27%), the context/content of the practices was gameplaying (public 73.68%, private 63.59%), the teachers' behavior was observing (public 63.58%, private 71.54%), and the teachers' interaction did not include promoting physical activity/fitness/motor skills in and out of class. In light of these findings, it is essential to conduct further research and make necessary adjustments to preschool teacher training programs and preschool curricula, which are far from achieving the preschool physical activity goals, to identify possible reasons for preschool children's inactivity and teachers' behaviors and practice content that keep students inactive.

Keywords

Preschool education
Movement activities
Physical activity
Systematic observation
SOFIT-P

Article Info

Received: 03.15.2024
Accepted: 11.19.2024
Published Online: 09.12.2025

DOI: 10.15390/ES.2025.2578

* This article is derived from İsmail Çiçek's Master's thesis entitled "An examination of student physical activity engagement level, physical activity type, course content and teacher behavior in pre-school movement activities", conducted under the supervision of Leyla Saraç.

¹ Ayşe Parmaksız Middle School, Şanlıurfa, Türkiye, ismailcicekismail@gmail.com

² Çukurova University, Faculty of Sports Sciences, Department of Physical Education and Sports, Adana, Türkiye, lylsrc@gmail.com

Introduction

The foundation of a country's future lies in its social and economic development and in raising productive, responsible, and healthy individuals in every aspect, so investing in and nurturing individuals with these qualities is paramount (Adams, 2002; Reynolds et al., 2011). Human development begins before birth and is shaped by life experiences from birth to death. Early experience plays a vital role in developing lifelong learning, attitudes, and physical and mental health. It is also crucial for language, cognition, socio-emotional, and regulatory development and is a marker for later success in different domains (Bakken et al., 2017). A strong foundation early in life increases the probability of positive outcomes, while a weak foundation increases the likelihood of difficulties later in life (Center on the Developing Child, 2010). Research indicates that movement is vital for life, especially for young children. Young children both experience and are the focus of early learning through movement. As children develop neuromuscular control, they can comprehend the physical world and express what they understand non-verbally. Children learn about their surroundings through movement with an unquenchable curiosity. Allowing children to move enables them to make discoveries and gather crucial information about their world. Through movement, children also develop the thinking and physical skills needed to navigate nature and the world, adapting to their environment. Motor skills undergo significant development during this period, establishing the groundwork for success in various other developmental areas, such as language, cognition, and physical and social development (Gandotra et al., 2023; Iverson, 2010; Riggs, 1980).

Like the family, the school is an important resource in ensuring the overall well-being of children. Schools help facilitate this development by providing planned learning opportunities for all students. This development is being implemented through the curriculum. When this study was conducted, schools in Türkiye were using the preschool curriculum that has been implemented since 2013. However, it is worth mentioning that while writing this article, the preschool curriculum was updated (Ministry of National Education [MoNE], 2024). Intending to ensure children's holistic development, the Ministry of National Education (MoNE) in Türkiye has defined five developmental areas (cognitive, linguistic, social and emotional, motor and self-care) and acquisitions for children in three different age groups (36–48, 48–60, and 60–72 months) within the preschool curriculum that has been implemented since 2013 (MoNE, 2013). Within these developmental areas, five main acquisitions have been identified for children's motor development, which is also the focus of this study. These acquisitions are related to locomotor movements (e.g., warming up, cooling down, running, jumping, skipping, climbing), balance movements (e.g., moving along a line, standing on one foot), movements that require object control (e.g., kicking a ball with the foot, rolling a ball with the hand, throwing objects to a target), movements that require fine motor skills (e.g., collecting objects, stacking objects), and movements that involve music and rhythm (e.g., making dance steps, dancing to music). The curriculum aims to develop children's basic movement skills through recommended movement activities to achieve motor development gains, ensure lifelong participation in physical activity, develop children's physical and motor literacy, perceptual-motor development, and movement skills such as displacement, object control, and balance, and contribute to the children's physical, motor, cognitive, language, social and emotional development, and self-care skills. In short, physical and motor activities in the preschool curriculum aim to develop children's basic movement skills, body awareness, motor skills (strength, coordination, speed, and agility), and physical skills (flexibility, strength, and endurance) (MoNE, 2013). Preschool children's failure to achieve the levels of performance set by the MoNE in these areas of motor development can lead to problems that negatively impact childhood and later adult life.

It is often stressed in the literature that motor development, which is also a focus of MoNE, is not only related to the children's development towards movement. Research has shown that even in newborn babies, movements are not just reflexes; motor development is not just about learning to control muscles; motor development is at the heart of human development and reflects all the different aspects of human development, including perception, planning, and motivation (Von Hofsten, 2004),

and motor experiences in early childhood have also been reported to relate to cognitive, social or perceptual development (Bushnell & Boudreau, 1993). It has also been argued that motor development should be considered from a broader perspective. This is because the brain and body are biologically inseparable and have properties that adapt to the environmental contexts in which individuals live (Gabbard et al., 2009). The literature provides a substantial body of evidence to suggest that motor development is a lifelong process, continuing beyond childhood and into adulthood. This evidence suggests that interventions aimed at improving motor skills can be effective throughout various life stages.

The importance of motor development in children is also evident concerning the concept of obesity. Obesity has been defined as one of the significant public health problems of the 21st century (World Health Organization [WHO], 2020), and the statistics on childhood obesity are alarming. According to 2020 statistics, 340 million children and adolescents aged 5–19 years worldwide are classified as overweight or obese (WHO, 2021). Childhood obesity statistics in 2030 predict that China, India, and America will be in the top three in terms of the number of obese children, and Türkiye will be in the 13th place, indicating that the critical threshold has been reached in Türkiye (World Obesity Federation [WOF], 2019). Obesity, defined as an abnormal or excessive and life-threatening accumulation of fat, is a major risk factor for many non-communicable diseases, such as cardiovascular disease, musculoskeletal disorders, and some cancers in adulthood (WHO, 2021), and in childhood, being overweight or obese has risk factors for physical (i.e., diabetes, asthma, cardiovascular disease, high cholesterol, orthopedic problems), psychological (i.e., low self-esteem/confidence, body image), social (i.e., discrimination, isolation) and academic (i.e., school absenteeism, poor performance) problems (Sahoo et al., 2015; Schwimmer et al., 2003). Increased consumption of energy-dense foods high in fats and sugars, increased physical inactivity associated with sedentary lifestyles, changes in transportation patterns, and increased urbanization have contributed to obesity and overweight and their associated health consequences, which are largely preventable through regular physical activity and a healthy diet (WHO, 2021). Despite this, statistics show that people of all ages around the world do not get enough physical activity, which makes a significant contribution to their overall health and is one of the cheapest and most accessible ways to prevent diseases associated with inactivity (Aubert et al., 2021; Guthold et al., 2018; Guthold et al., 2020).

Preschool children are expected to develop basic motor skills such as running, jumping, throwing, and catching and engage in physical activity through Movement Activity practices in the preschool curriculum (MoNE, 2013). The development of these skills can only be achieved if children are physically active. Indeed, the literature reports an association between physical activity and motor skills, with children with high levels of physical activity also having high levels of motor skills (Dapp et al., 2021; Figueroa & An, 2017; Martínez-Bello & Estevan, 2021; Williams et al., 2008). In addition, there is evidence in the literature that the acquisition of physical activity habits in the early years of life may be an important determinant of physical activity later in life (Hnatiuk et al., 2012). However, physical activity and motor skills, which are so important for a child's overall physical, psychological, and social development, are not something that a child can do on their own at every stage of their life (Ali et al., 2017). While policymakers need to take a broader approach to achieving this goal by enacting nationwide laws and regulations, it is the schools where children spend a significant part of their day that provide the necessary environment and facilities for children to be physically active. Educational programs in schools, particularly physical education programs, help children become accustomed to participating in physical activity. MoNE (2013) recommends that to achieve motor skill development in the preschool curriculum, Movement Activities should last for at least 30 minutes, with the first 5 minutes for warm-up games and 20 minutes for reviewing previous practice and learning new basic movement skills. The WHO also stresses that preschoolers should get at least 180 minutes of a variety of physical activities of all intensities, including at least 60 minutes of moderate-to-vigorous physical activity spread throughout the day. Sedentary time, especially time spent in front of screens for entertainment, should be limited, and physical activity should be increased (WHO, 2019).

Despite all these suggestions, research focusing on preschool physical activity in schools shows that preschool physical activity levels are low (Hinkley et al., 2012; Tucker, 2008). Specifically, a systematic observation of preschools in Hong Kong examined the physical activity levels of students in physical education classes and found that students spent 12.3% of class time sitting, 37.6% of class time standing, and 30.3% of class time walking (Chow et al., 2015a). In the same study, 43.8% of instructional time was spent on skill practice, 19.5% on class management, 14.5% on fitness development, 10% on free play, 7.1% on knowledge, and 5.1% on gameplay. Results from the same study on teacher behavior showed that teachers spent 46.5% of their physical activity class time managing students and the instructional environment, 25.4% observing, 21.2% promoting and demonstrating fitness, and 6.7% providing general instruction. Another study that systematically observed physical education classes found that students spent 27.8% of the class time sitting, 23.4% standing, and 27.7% walking in physical education classes in Belgian kindergartens (Van Cauwenberghe et al., 2012). Regarding course content, the same study found that 41.7% of physical education class time was spent on skill practice, 18.3% on knowledge content, 17.9% on general content, 11.7% on gameplay, and 10.4% on fitness activities. The same study also found that the teacher instructed 49.1%, managed 23.2%, demonstrated 13%, and promoted 11.1% of physical education class time.

Assessing the physical activity levels of preschool children in school is essential because the activity habits and levels established during this formative period can significantly influence long-term physical activity patterns and overall health outcomes in adulthood. This early assessment plays a critical role in promoting a healthier society by establishing positive physical activity habits from a young age (Batista et al., 2019). Research has shown that participating in physical activity and sports during childhood and adolescence is strongly associated with maintaining high levels of physical activity in old age (Hirvensalo et al., 2000; Telama et al., 2005). As mentioned above, consistent physical activity plays a crucial role in promoting overall growth and development. It offers a wide range of benefits for physical, mental, and psychosocial well-being at all ages. In particular, targeted physical activity initiatives during early development have been shown to improve psychosocial outcomes significantly. These outcomes include improvements in self-concept, social behavior, goal orientation, and, importantly, self-efficacy. It is worth noting that these elements are important determinants of an individual's current and future participation in physical activity, particularly as they move into older age groups (Kohl & Cook, 2013).

Given that physical inactivity is ranked by the WHO (2009) as the fourth leading risk factor for global mortality and is estimated to cause 3.2 million deaths worldwide each year, physical activity habits from childhood to adulthood will also make a significant contribution to reducing the health expenditure needed to prevent these deaths. To take future precautions, it is important to determine whether children are physically active, as recommended by the MoNE curriculum (Goldfield et al., 2012; MoNE, 2013; Pica, 2011). Progress can be made if all actors and stakeholders are committed to working together toward the common goal of eliminating childhood obesity. In this respect, the findings of this study will make a significant contribution to both the knowledge of the physical activity status, the formulation of future policies and regulations, the country's physical activity policy for schools, and the almost non-existent literature in Türkiye. Furthermore, because the majority of research on this topic consists of statement-based research, it is even more important to uncover physical activity and motor development practices in the preschool years through systematic observation.

As the literature highlights school characteristics as an important factor in students' physical activity and motor skill development, this study aimed to fill a gap in the literature by comparing public and private schools and providing insights into possible differences between schools. School characteristics have been emphasized in the literature as one of the important factors affecting the physical activity levels of preschool children in physical education classes, and this emphasis led the study to be conducted in public and private schools, which were estimated to have different physical

structures and facilities based on the literature. The literature on comparing public and private preschool education has highlighted that there are similarities in implementing the official policies set by the educational authorities but also differences based on school facilities (Rentzou, 2014; Sitati et al., 2016). For example, Cardon and De Bourdeaudhuij (2008) examined factors influencing preschool children's physical activity levels and found that characteristics such as playground equipment, playground size, and whether playground equipment was fixed or mobile influenced children's physical activity levels. In addition, the literature has identified limited indoor and outdoor mobility in preschool settings and a lack of physical activity equipment as factors that encourage or limit children's physical activity (Dowda et al., 2009; Finn et al., 2002; Pate et al., 2008). The main barriers to children's experiences of physical activity in preschool settings identified in several studies also include insufficient time, limited educational opportunities and resources, and individual characteristics of school staff (Macdonald et al., 2021). In addition, the lack of open space and suitable environments for physical activity in preschool settings, the inflexibility of the school day, and the emphasis on academic activities that require children to sit for long periods have also been reported as barriers to physical activity (Coelho & Tolocka, 2020). Although the standards of preschool education are set by MoNE regulations that must be implemented throughout the country, there are differences between preschool institutions in terms of various factors that can have an impact on intended outcomes. According to numerous national studies, most of which were conducted in public preschools, the challenges faced by preschools closely mirror those identified in international studies (Dowda et al., 2004; Lea & Polster, 2010). These challenges include difficulties in maintaining and repairing school facilities, inadequate auxiliary staff, high student-to-teacher ratios, insufficient funding, limited space and classrooms, lack of necessary materials and equipment, absence of outdoor areas such as gardens and playgrounds, inadequate restroom and handwashing facilities; heating and lighting issues; cramped classroom sizes that restrict movement during activities; and difficulties in acquiring materials and toys for instructional use (Can & Kılıç, 2019; Micozkadıoğlu & Berument, 2011; Sabancı et al., 2018; Yıldız, 2018). Eroğlu and Şimşek (2021) have emphasized the importance of a high-quality preschool education being situated within an environment characterized by optimal physical conditions and enriched facilities. Nevertheless, they have identified the difficulties faced by preschool institutions in Türkiye in meeting these essential conditions. Research findings consistently demonstrate that there exists a direct correlation between the quality of educational institutions and the developmental outcomes of children. Specifically, studies have shown that as the quality of the learning environment improves, so do children's language-cognitive abilities, fine motor skills, gross motor skills, and self-care social development. This underscores the critical role that the educational setting plays in shaping the holistic development of children (Canbeldek & Işıkoğlu Erdoğan, 2016).

In light of the national and international literature on the subject that has been analyzed above, this study aimed to find out what is happening in preschool activities concerning movement and to elucidate the physical activity practices of children in preschool settings. In particular, this study aimed to compare the levels of physical activity by students, the types of physical activity that they engaged in, the curricular lesson context and content, and the involvement and promotion of physical activity by teachers between public and private preschools.

Method

Research Model

A descriptive correlational quantitative observational design was used in this study to compare student physical activity level, student physical activity type, curricular lesson context/content, teacher involvement, and teacher interactions in public and private preschool Movement Activities practices. Correlational studies focus on the study of variables in a mostly natural setting, their identification, and the establishment of relationships between them, without implying that these relationships may be cause-and-effect relationships between any of these variables (Fraenkel et al., 2012).

Participants

The study was conducted with 50 female preschool teachers who were chosen through convenience sampling (Fraenkel et al., 2012) from schools in the central districts of Şanlıurfa, Türkiye. The criteria for selection were that they were working in schools that were easily accessible to the researcher and that were female. The reason for including only female teachers in this research was that the majority of teachers working in preschool institutions in Türkiye were female, so a gender comparison would not have been possible due to the limited number of male teachers. No criteria, such as school characteristics, teacher characteristics, etc., were taken into account in the selection of public and private schools. However, based on research findings in the literature, it was assumed that private preschool institutions have more physical facilities and are more developed than public schools. Of the 50 participating teachers, 23 were public school teachers, and 27 were private school teachers. The mean age of public school teachers was 33.57 (SD=5.43) years, compared to 29.07 (SD=3.74) years for private school teachers. While the average number of years of teaching experience of public school teachers was 8.96 (SD = 4.69), that of private school teachers was 5.19 (SD = 3.66). A total of 200 students were observed. Of these, 92 students (46 girls and 46 boys) were studying in public schools, and 108 students (54 girls and 54 boys) were in private schools. The study did not ask about the age of the children. However, according to the Basic Law on National Education, the typical age range for students in preschool institutions in Türkiye is between 5 and 6 years. Children who have not yet reached the starting age for primary school are allowed to attend preschool educational institutions, although it is not compulsory to do so (Milli Eğitim Temel Kanunu, 1973). While the average duration of Movement Activity practices in the 23 public schools observed in the study was 23.41 minutes (SD = 9.51), in the 27 private schools, it was 20.47 minutes (SD = 9.07).

Data Collection Instruments

System for Observing Fitness Instruction Time (SOFIT) for Preschoolers (SOFIT-P)

The research used a tool called the System for Observing Fitness Instruction Time for Preschoolers (SOFIT-P) (Sharma et al., 2011). This is an adapted version of the System for Observing Fitness Instruction Time (SOFIT) developed by McKenzie (2005). This tool measures student engagement in physical activity, the curricular lesson context/content, teacher involvement, and teacher interactions related to physical activity promotion in school physical education. SOFIT-P has been modified to include the categories of student physical activity level, physical activity type, indoor classroom context, and outdoor classroom context categories. However, only the physical activity level and physical activity type categories were used in the current study because the indoor classroom context and outdoor classroom context categories focus on course content other than physical activity/movement (Sharma et al., 2011). In addition, this study used the original SOFIT categories of curricular Lesson Context/Content, Teacher Involvement, and Teacher Interactions in addition to the SOFIT-P categories of Physical Activity Level and Physical Activity Type. The 5 categories and the 27 subcategories that belong to these 5 basic categories and are included in the tool used in the research are shown in Figure 1. The researchers reported that the SOFIT-P, an adaptation of the SOFIT, is a feasible, reliable, and valid method of measuring the amount and type of physical activity in children aged 3-6 years by direct observation in preschool settings, following a two-phase adaptation study involving 67 preschool children aged 3-6 years in the first phase and 27 preschool children aged 3-6 years in the second phase (Sharma et al., 2011).

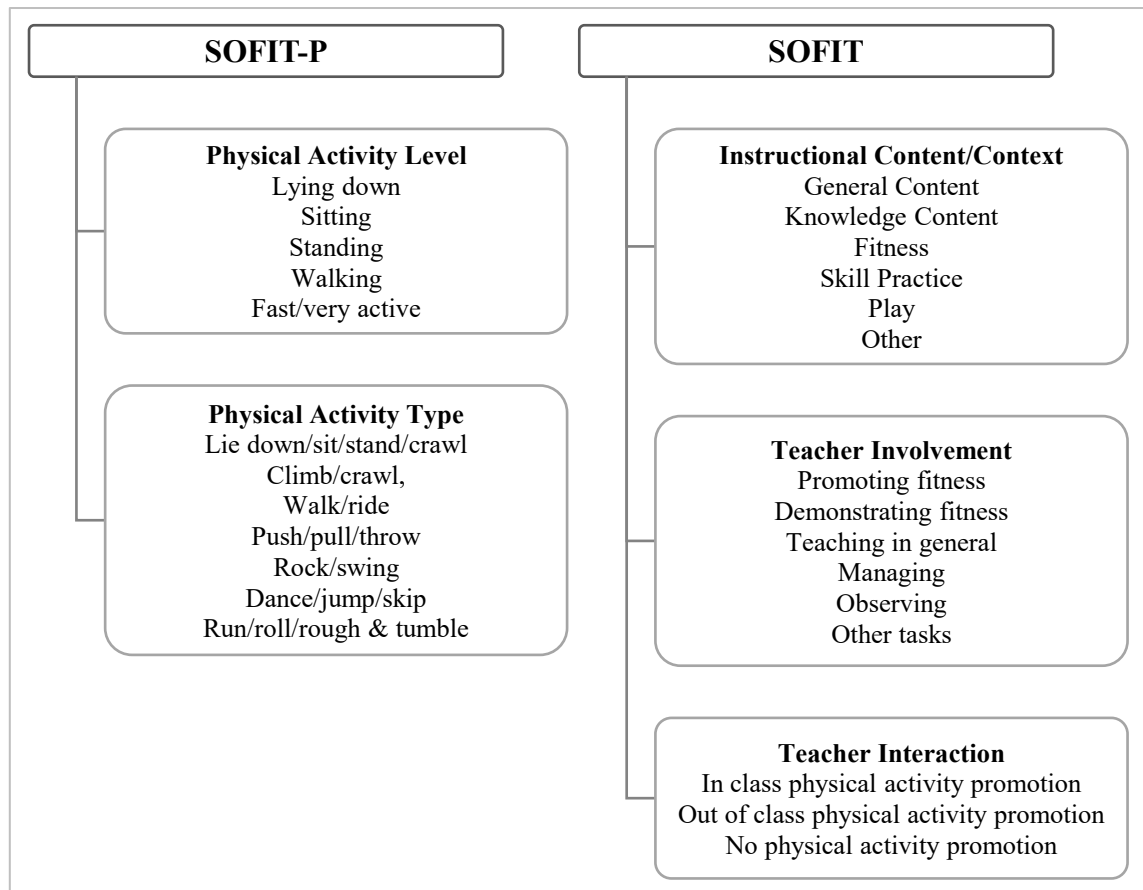


Figure 1. SOFIT-P and SOFIT categories used in the study

During the SOFIT-P administration, the observers randomly selected four children (two girls and two boys) from each classroom. In addition to these four students selected for observation, a backup student was also selected in case one of the selected students left the observation area (departure from the practice area, abandonment of the activity, injury, etc.) during the practices. These selected children were observed for 20 seconds each in five categories and 27 subcategories, and the observers recorded for 10 seconds in alternating blocks for a total of 4 minutes. In each practice, 4 selected students were observed for 4 minutes and 12 intervals, irrespective of the practice duration. It is important to note that the data reported are group rather than individual data, as these four children were representative of the physical activity of the whole classroom during Movement Activity practice time.

Data Collection Procedures

Ethical approval was obtained from the university's Social and Human Sciences Ethics Committee before the start of the study. After approval from the ethics committee, permission to collect data from public and private preschool institutions was obtained from the relevant unit of the provincial Department of National Education. Following this, permission was also sought from the principals of 72 schools (46 public and 36 private) to conduct the research in their schools. However, it was only possible to collect data from some of the schools contacted due to the reluctance of principals or teachers to be videotaped. In the end, 50 schools were identified, and principals agreed to conduct the research, and teachers volunteered to participate. Permission was obtained from the parents of all the children in each classroom. Teachers who participated in the research were given detailed information before the study began. There was no intervention in the content of the teachers' Movement Activity practices. Based on the average duration of a physical education lesson in other levels of education, it was determined that an average of 40 minutes of Movement Activity practices in the preschool curriculum would be observed, and this information was made available to teachers. Movement Activity practices in early childhood curricula are designed to ensure children participate in physical activity throughout

their lives by enhancing basic movement skills and contributing to their physical, motor, cognitive, language, social, and emotional development and self-care skills. These activities develop children's basic movement skills, body awareness, motor competence (strength, coordination, speed, agility), and physical competence (flexibility, strength, endurance) and include the development of children's physical and motor competence, perceptual motor development and movement skills, namely displacement, object control, and balance skills. Examples of movement activities include activities that develop body awareness (different parts of the body such as shoulders, waist, elbows, and wrists), spatial awareness (up, down, front, back, right, left), strength, speed, agility, flexibility, endurance, and coordination. In addition to the use of structured materials such as balls, ropes, chalk, hula hoops, and balance boards, teachers can also use materials and environments that nature offers to children, such as grounds with different structures, climbing opportunities, logs to use for balance, traditional/local children's games, outdoor street games. The recommended duration of physical activity that can take place in the classroom or outdoors is at least 30 minutes, with the first five minutes consisting of warm-up games, 20 minutes of reviewing previous practice and new basic movement skills, and the last five minutes of cooling down (MoNE, 2013).

To ensure data accuracy, the Movement Activity practices were videotaped using a camera placed in a location that provided a clear view of all students and teachers in the practice area. The Movement Activity practices were recorded using the SOFIT-P guidelines. The recording started when half of the class arrived and ended when the teacher gave the end-of-lesson command for the movement activity. When viewing the video recordings, four students (two girls and two boys) were randomly selected for observation using the SOFIT-P observation tool. One student was observed every 12 intervals, with each interval consisting of 20 s of observation and 10 s of recording. The subcategories observed were student physical activity level, physical activity type, curricular lesson context/content, teacher involvement, and teacher interaction. This process continued throughout the practice time of the Movement Activity. An external voice recorder was also used to record the teachers' voices. Each videotaped Movement Activity practice was analyzed based on the "observe/record" commands, prepared in the format of 20 s of observation and 10 s of recording, according to the SOFIT-P description and procedures manual.

By the SOFIT-P guidelines, 12% of the video recordings of Movement Activity practices were observed twice by the same observer to demonstrate the consistency of an observer's observations when observing the same video recordings at different times and the consistency of two different observers' observations of the same video recordings (McKenzie, 2005). The observer used the SOFIT-P observation tool to code the videos. The reliability coefficient between two observations by two observers (interobserver agreement) and between two observations by the same observer (intraobserver agreement) was calculated using the following Van der Mars formula (1989):

$$\frac{\text{Agreements}}{\text{Agreements} + \text{Disagreements}} \times 100$$

Agreement occurs when the two observers in one observation, or the same observer in two observations, agree on a particular aspect of the observation, and disagreement occurs when the two observers in one observation, or the same observer in two observations, disagree on a particular aspect of the observation. Using the formula, the intraobserver reliability coefficients were calculated as 95.4% for Physical Activity Level, 95% for Physical Activity Type, 91% for Lesson Content/Context, 90% for Teacher Participation, and 95% for Teacher Interaction. Similarly, interobserver reliability coefficients were calculated using the same formula, and the coefficients were found to be 93.5%, 93.1%, 92.4%, 90.9%, and 94.6%, respectively, after two different observers viewed 12% of the video recordings.

Public and Private Preschool Characteristics

Analysis of learning environments in observed Movement Activity practices showed that 19 practices in public schools took place in classrooms, 2 in halls, 1 in a playground, and 1 in a hallway, 9 practices in private schools took place in classrooms, 9 in playgrounds, 8 in gymnasiums and 1 in a mini artificial grass field. The materials used in public school practices were 14 Smart Boards, 14 sound systems, 4 hurdles, 1 chair, 4 training cones, 3 balls, 1 gym mat, 1 handkerchief, 6 hoops, 5 half cones, and 2 slalom poles, while private schools used 6 sound systems, 3 hurdles, 6 chairs, 8 training cones, 7 balls, 7 gym mats, 1 handkerchief, and 1 half cone. In public schools, educational games were used in 23 Movement Activity practices, and dance-based educational games in 4 practices. In private schools, educational games were used in 26 practices, children's Pilates in 1 practice, children's Zumba in 1 practice, and dance-based educational games in 4 practices. Of the public school Movement Activity practices, 4 included the parkour race, 8 included the dance race, 4 included educational game-based competitions, and 6 included dance activities, while of the private school practices, 20 included the parkour race, 7 included dance race, 2 included dance and 2 included parkour running. In public schools, music was used in 15 practices and not in 8, while in private schools, music was used in 15 practices and not in 12.

Data Analysis

Statistical comparisons of physical activity levels, types of student physical activity, curricular lesson context/content, teacher involvement, and teacher interactions between public and private preschools were made using the Mann-Whitney U test. The use of the Mann-Whitney U test was due to the small sample size of the study (Pallant, 2011). All analyses were performed using IBM SPSS software (version 23.0; SPSS for Windows, SPSS Inc., Chicago, IL, USA).

Results

The results of the Mann-Whitney U analysis, which was used to compare the level of physical activity of the students in the Movement Activity practices in the public and private preschool institutions, showed that there was no statistically significant difference between the two groups of institutions. The amount of Movement Activity practice time spent lying down ($U= 305.00, p= .85$), sitting ($U= 299.50, p= .83$), standing ($U= 298.00, p= .80$), walking ($U= 235.00, p= .11$) and fast/very active ($U= 284.50, p= .57$) was similar in public and private schools.

When the physical activity type is examined by school types, the findings showed that there was no statistically significant difference between the two school types in the amount of time spent lying down/sitting/standing/squatting ($U= 241.00, p= .18$), climbing/crawling ($U= 299.00, p= .36$), walking/riding ($U= 229.50, p= .07$), pushing/pulling/throwing ($U= 305.00, p= .85$), rocking/swinging ($U= 310.50, p= 1.00$), and running/rolling/rough & tumbling ($U= 237.00, p= .13$). However, there was a significant difference in the amount of practice time spent on dancing/jumping/skipping ($U= 215.00, p= .04$). According to these findings, the amount of class time spent on dancing/jumping/skipping was greater in public schools ($Mdn= 6.67$) than in private schools ($Mdn= .00$).

Examining the curricular lesson context/content based on school type showed that there was no statistically significant difference in the amount of time spent on the categories of general content ($U= 298.50, p= .81$), skill practice ($U= 310.50, p= 1.00$), gameplay ($U= 279.50, p= .54$), and other content ($U= 283.00, p= .25$). However, there was a difference in the amount of time spent on the knowledge ($U= 151.50, p= .002$) and the fitness content ($U= 189.50, p= .01$). The results showed that the time spent on knowledge content was higher in public schools ($Mdn= 10.34$) than in private schools ($Mdn= 4.16$). Similarly, the time spent on fitness was higher in private schools ($Mdn= 11.11$) than in public schools ($Mdn= .00$).

Results from the comparison of teacher involvement by school type showed that there was no statistically significant difference between the two groups in terms of time spent on promoting fitness ($U= 251.00$, $p= .09$), demonstrating fitness ($U= 270.50$, $p= .42$), and observing ($U= 220.50$, $p= .08$), but showed that there was a significant difference in the time spent on instructing generally ($U= 105.00$, $p= .001$), management ($U= 170.50$, $p= .001$), and other tasks ($U= 206.50$, $p= .03$). According to these results, public school teachers ($Mdn= 13.04$) spent more time on instructing generally than private school teachers ($Mdn= 3.92$), public school teachers ($Mdn=1.66$) spent more time on management activities than private school teachers ($Mdn= 0.00$), and public school teachers ($Mdn= 4.25$) spent more time on other tasks than private school teachers ($Mdn= .00$).

The results of the analysis comparing teacher interactions by school type showed that there was no difference between the two groups of teachers in terms of Movement Activity practice time spent on promoting physical activity, fitness, or motor skills in class ($U= 244.50$, $p= .11$), promoting physical activity, fitness or motor skills out of class ($U= 310.50$, $p= 1.00$) and not promoting physical activity, fitness or motor skills in class or out of class ($U= 244.50$, $p= .11$). Results comparing students' physical activity levels, type of physical activity, curricular lesson context/content, teacher involvement, and teacher interaction between public and private schools are presented in Table 1.

Table 1. Comparison of Physical Activity Level, Physical Activity Type, Lesson Context/Content, Teacher Involvement, and Teacher Interaction between Public and Private Preschool Institutions

		n	$\bar{x}$	SD	Mdn	U	p
Student Physical Activity Level							
Lying down	Public	23	1.55	5.81	.00	305.00	.85
	Private	27	1.33	4.65	.00		
Sitting	Public	23	49.22	32.19	48.27	299.50	.83
	Private	27	47.88	28.73	45.09		
Standing	Public	23	39.80	27.31	36.11	298.00	.80
	Private	27	42.54	30.24	39.58		
Walking	Public	23	7.05	10.74	1.81	235.00	.11
	Private	27	4.29	8.20	.00		
Fast/very active	Public	23	2.35	3.88	.00	284.50	.57
	Private	27	3.94	5.93	.00		
Student Physical Activity Type							
Lie down/sit/stand/squat	Public	23	81.80	13.32	85.11	241.00	.18
	Private	27	84.27	20.36	89.36		
Climb/crawl	Public	23	.00	.00	.00	299.00	.36
	Private	27	.17	.89	.00		
Walk/ride	Public	23	5.21	8.71	1.41	229.50	.07
	Private	27	2.88	7.44	.00		
Push/pull/throw	Public	23	1.03	3.28	.00	305.00	.85
	Private	27	1.11	4.34	.00		
Rock/swing	Public	23	.00	.00	.00	310.50	1.00
	Private	27	.00	.00	.00		
Dance/jump/skip	Public	23	9.45	9.93	6.67	215.00	.04
	Private	27	6.60	19.39	.00		
Run/roll/rough & tumble	Public	23	2.49	4.07	.00	237.00	.13
	Private	27	4.94	5.93	3.23		

Table 1. Continued

		n	$\bar{X}$	SD	Mdn	U	p
Lesson Context/Content							
General content	Public	23	9.04	9.61	7.14	298.50	.81
	Private	27	7.97	7.89	5.88		
Knowledge content	Public	23	11.46	7.79	10.34	151.50	.002
	Private	27	5.12	4.02	4.16		
Fitness	Public	23	3.30	5.89	.00	189.50	.01
	Private	27	21.24	28.37	11.11		
Skill practice	Public	23	.00	.00	.00	310.50	1.00
	Private	27	.00	.00	.00		
Gameplay	Public	23	73.68	15.51	77.77	279.50	.54
	Private	27	63.59	31.78	70.83		
Other	Public	23	2.49	9.83	.00	283.00	.25
	Private	27	2.05	10.69	.00		
Teacher Involvement							
Promotes fitness	Public	23	2.04	4.41	.00	251.00	.09
	Private	27	1.48	6.44	.00		
Demonstrates fitness	Public	23	8.83	8.87	7.04	270.50	.42
	Private	27	18.02	24.29	10.63		
Instructs generally	Public	23	14.58	9.48	13.04	105.00	.001
	Private	27	4.67	4.19	3.92		
Manages	Public	23	2.81	4.28	1.66	170.50	.001
	Private	27	.44	1.30	.00		
Observes	Public	23	63.58	19.03	61.03	220.50	.08
	Private	27	71.54	27.32	81.66		
Other-task	Public	23	8.13	10.72	4.25	206.50	.03
	Private	27	3.82	10.01	.00		
Teacher Interactions							
Promotes in-class physical activity/fitness/motor skills)	Public	23	3.30	5.26	.00	244.50	.11
	Private	27	.68	1.45	.00		
Promotes out-of-class physical activity/fitness/motor skills	Public	23	.00	.00	.00	310.50	1.00
	Private	27	.00	.00	.00		
No promotion	Public	23	96.69	5.26	100.00	244.50	.11
	Private	27	99.31	1.45	100.00		

Discussion

This study aimed to investigate whether students' physical activity levels, types of physical activity performed, curricular lesson context/content, teacher involvement, and teacher interaction during Movement Activity practices differed between public and private preschools.

The research found that there was no difference between the physical activity levels of children in public and private preschools. In both types of school, the expected level of physical activity for these children during Movement Activity practices was found to be relatively low (public 2.35%, private 3.94%), with children sitting for almost half of the Movement Activity practices (public 49.22%, private 47.88%) and standing for a significant proportion of the practice time (public 39.80%, private 42.54%). The national and international literature contains a very limited number of studies involving preschool children and investigating levels of physical activity in physical education lessons through classroom observation. In one of the studies found in this limited body of literature, an American study by Robinson et al. (2018) found that contrary to current research findings, preschool children engaged in walking activity for approximately 51% of class time. They also found that children were involved in

sitting activity in 12.32% of the class time and standing activity in 28.64% of the class time but that the amount of time spent in physical activity was lower than expected, at approximately 8% of the class time. In addition, a study of a sample of preschools in Hong Kong found that children spent 12.3% of physical education class time sitting, 37.6% standing, and 30% walking. In the same study, it was also reported that the students were active for 19.5% of the class time (Chow et al., 2015a). In the Belgian sample, it was found that children in preschool physical education spent 27.8% of class time sitting, 23.4% standing, and 27.7% walking, and that the time spent actively in class was 18.1% (Van Cauwenberghe et al., 2012). The results of the current study and the international literature show that the expected goals of keeping preschool children physically active are not being met. In other words, the WHO recommendation of at least 60 minutes of moderate-to-vigorous, primarily aerobic, physical activity per day for children appears to be far from being met in schools (WHO, 2020). Although there may be a variety of reasons why pupils in this study are not physically active in Movement Activity practices, similar results are observed in physical education classes that are taught by classroom teachers rather than by the specialist physical education teacher (teacher with a diploma in physical education). Supporting this, a study that used the same observation tool to determine the level of physical activity of fourth-grade primary school students in Türkiye found that students spent an average of 72% of class time standing (Yon & Saraç, 2022). Based on this, it can be interpreted that the lack of physical activity among the students means that the teachers are not adequately equipped to get students active, which may be due to the limited number of courses related to child physical activity in their teacher training (Council of Higher Education, 2018). Kippe and Ligestad (2018) highlighted that differences in the physical activity levels of preschoolers can be attributed to the professionals leading physical activity at school, namely teachers. The literature also highlights that preschool children's physical activity levels are linked to the physical environment (i.e., indoor space, outdoor playground), and schools need to encourage children to be physically active and implement programs to increase physical activity (Finn et al., 2002). The information obtained from the observation data on this topic showed that the majority of the practices in public schools (83%) were carried out in the classroom. On the other hand, it was observed that the areas where the practices were carried out in private schools were mostly classrooms (33%), school gardens (33%) and sports halls (30%). It was observed that public schools mostly use smart boards and sound systems depending on the classroom environment, whereas private schools do not use smart boards, but there are similarities in the use of materials such as hoops, hurdles, training cones, half cones, balls in practices, although there are differences in the number of materials. It was also observed that competitions involving parkour or dance movements and mostly accompanied by music were used in both types of schools during physical activity sessions. In light of this information, it is suggested that the fact that the activities selected for Movement Activity Practical include competitions and that, although different areas and different teaching materials and equipment are used during these competitions, the fact that only 1-2 pupils are active during the competitions is the main reason why pupils are very little active in the Movement Activity practices observed.

Furthermore, it has been highlighted that teachers' perceptions, beliefs, and behaviors toward physical activity also influence preschool children's physical activity levels through physical education (Tremblay et al., 2012). Studies have reported that children's levels of physical activity depend on whether the preschool teacher decides when children go outside, which depends on whether the teacher prefers different types of climate (hot or cold), the level of noise or congestion outside, the amount of preparation needed to go outside, the degree to which the teacher believes that it is the teachers' responsibility to meet children's physical activity needs, or whether the teacher feels that children are safer outside (Brown et al., 2009; Copeland et al., 2012; Tremblay et al., 2012). There are also studies in the literature that show that children in physical education classes with physically active teachers have higher levels of physical activity than children in classes with teachers who mostly sit, stand, or are inactive in class (Cheung, 2020). Based on the findings of these studies in the literature, it can be argued that the teachers in this study spent most of their practice time observing the students without

participating in any activity themselves or with their students and they were not physically active in the classroom and the students were mainly involved in lying/sitting/standing/squatting activities. Despite this inactivity on the part of the pupils, there was no encouragement on the part of the teachers for the pupils to be physically active. One of the main reasons for this inactivity could be the teachers' inappropriate choice of activities for the pupils, i.e., activities that do not keep them physically active during the whole class.

When the type of physical activity was examined in the study, it was found that more Movement Activity practice time was spent on dancing/jumping/skipping activities in public schools than in private schools. However, in both public schools (9.45%) and private schools (6.60%), this amount of time represents less than 10% of total practice time. In this study, it would be more accurate to focus on the insufficient practice time devoted to activities such as dancing, jumping, and skipping that promote children's physical activity rather than comparing how public and private school teachers use practice time for these activities in the Movement Activity. However, differences in school characteristics and facilities (e.g., play areas, and materials) could explain these differences (Broekhuizen et al., 2014; Kippe & Ligestad, 2018). The most striking finding in terms of the type of physical activity was that the majority of time spent in Movement Activity practices by students in both public schools (81.80%) and private schools (84.27%) consisted mainly of lying down/sitting/standing/squatting activities. Research investigating the types of physical activity of preschool children in observed physical education classes in Spain found that 17.82% of class time was spent walking, 14.20% sitting or squatting, 12.47% standing, and 10.52% jumping or skipping (Lahuerta-Contell et al., 2021). In a US study that supports our research, researchers found that 89% of preschool physical education class time was spent in sedentary activities such as sitting, squatting, lying down, and standing. Activities involving movement were much less common (Brown et al., 2009). Some studies show that the majority of class time in preschool physical education is spent on the types of activities that make children inactive, while others show that the majority of class time is spent on the types of physical activities that make children active. For example, in the Hong Kong sample, observations of 90 physical education lessons by 25 teachers in four schools showed that most class time in preschool physical education lessons was spent on jumping (39%), crawling (32%), throwing (29%), balance beam movement (22%), climbing (20%) and tricycle riding (18%), and less time on rhythmic activities (6%) and free play (2%) (Chow et al., 2015a). While the literature does not directly compare the physical activity status of students in public and private preschools, studies conducted in schools with different characteristics suggest that lack of space and facilities for physical activity are significant barriers to children's physical activity. In one such study, Chow et al. (2015a) conducted a study in four schools and all private preschool institutions in Hong Kong and reported that students' activity levels, curricular lesson context, and teacher behavior variables differed between schools. Research has shown that preschool physical education's physical learning environment, including physical education facilities, environment and capacity, sports equipment, and indoor and outdoor play areas, have a positive impact on children's physical activity levels (Bower et al., 2008; Coe, 2020). In this study, the higher proportion of competitive dance activities in public schools may be the main reason why the percentage of dance/jump/skip activities was lower in both public and private schools, but higher in public schools than in private schools. In private schools, most of the activities were carried out as parkour races. In addition, the fact that in public schools the exercises were mostly done in the classroom, whereas in private schools the exercises were done in the school garden, the classroom, and the sports hall, may have led to a higher jump/jump/skip rate in public schools than in private schools, as the dance/jump/skip activities were more suited to the classroom environment.

The results of the current study showed that in terms of lesson context/content, private schools (21.24%) spent more time on fitness activities than public schools (3.30%). It would be more appropriate to focus on the lack of time spent on fitness activities rather than on the difference in time spent on fitness activities by teachers in public and private preschools. An important point regarding findings related to fitness activities is that although 21.24% of the Movement Activity practice time in private schools is devoted to fitness, the level of physical activity of the pupils consists of sitting and standing for most of the practice time and the type of physical activity consists of lying, sitting, standing and squatting activities. This may be a clear indication that although private school teachers use fitness activities more than public school teachers, the fitness content chosen by private school teachers is far from the content that gets children physically active. One of the possible main reasons for these findings could be the fact that materials and facilities are more available in private schools than in public schools, as shown by national (Can & Kılıç, 2019; Yıldız, 2018) and international studies (Coelho & Tolocka, 2020). In support of this comment in the Ghanaian sample, preschool teachers stated that the lack of resources for course content that would enable students to be physically active was one of the barriers to preparing courses with content that encourages physical activity (Sofu & Asola, 2015). It is also noteworthy that in terms of curricular lesson context/content, a large proportion of practice time in both public (73.68%) and private (63.59%) schools is spent playing games, even though the level of physical activity is mostly sitting/standing and the type of physical activity is lying down/sitting/standing/squatting. However, children's physical activity levels are expected to increase during play due to the nature of the game (Brown et al., 2009). These findings can be interpreted as suggesting that the games used in Movement Activity practices are those that keep students inactive rather than those that get them physically active. In contrast to our findings, in Spain, it was reported that 65.60% of the time in pre-school PE was spent in free play and 28.50% in skill training. 40.20% of the time in PE, pupils were sedentary and 59.79% active. The same study also found that 17.82% of class time was spent walking, 14.20% sitting or squatting, 12.47% standing, and 10.52% jumping or skipping (Lahuerta-Contell et al., 2021). The findings of Lahuerta-Contell et al. (2021) are inconsistent with our research findings because, although much of the course content is gameplay, much of the physical activity of the students in our study was sitting and standing. Therefore, the characteristics of the type of physical activity chosen as part of the course content are an important factor in increasing or decreasing students' physical activity levels. Van Cauwenberghe et al. (2012) reported that in preschool physical education classes in Belgium, 41.7% of class time was spent on skill practice, 18.3% on knowledge content, 17.9% on general content, 10.4% on fitness activities, and 11.7% on gameplay. Indeed, the data on the characteristics of the environments where the physical activity practices take place could be the result of public schools performing the practices in the classroom environment, while private schools perform them in a variety of settings, e.g. in the class, in the garden, in the gym, and so on, and that the content of the practices in private schools includes fitness to a greater extent than in public schools. Besides this finding, it would be more appropriate to take into account the fact that the fitness content of the exercises does not contribute to children's increased physical activity when considering the overall interpretation of these findings.

One of the other striking findings from this research is that, although a significant proportion of Movement Activity practice time is spent on gameplay content, students were sitting (27.8%), standing (23.4%), and walking (27.7%) for a significant proportion of the practices, and were sedentary for 53.7% of the practice time. Interpreted from this perspective, the incompatibility between the curricular lesson context/content of Movement Activity practices and the level and type of physical activity of the students in Van Cauwenberghe et al.'s (2012) findings supports our research findings. Possible reasons for these research findings include inadequate school facilities, as well as teachers' negative attitudes towards physical activity or the value they place on it, and whether or not the teacher is competent to keep children physically active (Coleman & Dymont, 2013; Froehlich Chow & Humbert, 2011). There is research evidence to suggest that, particularly in the case of preschool children's outdoor

physical activity, teachers believe that children should be left to their own devices, should be carefully supervised without unnecessary intervention, and should only intervene in the case of inappropriate and dangerous behavior (Davies, 1997). These literature findings can also be interpreted as the teacher-directed practices of the students in this study restricting their physical activity, and indeed, the findings showed that the teacher-designed course content within the physical activity practices in the current study kept students inactive.

The results of the research on teacher involvement showed that teachers in public schools spend more time on instructing generally (14.58%), managing (2.81%), and other tasks (8.13%) than teachers in private schools (4.67%, 0.44% and 3.82% respectively). However, the most striking finding in this category is that teachers in both public (63.58%) and private (71.54%) schools spend a large proportion of their teaching time observing (monitoring entire class, group, or individual, see McKenzie, 2005). Similar to our research, preschool teachers in the Spanish sample were found to spend 46.80% of their physical education class time observing and 25.60% of their class time managing. Teachers in both countries spend a significant proportion of their teaching time observing. However, there is a difference in how this is reflected in pupils' physical activity levels. The preschool children in the Spanish sample are more active for a more significant proportion of the lesson than the children in the Turkish sample. The main reason for these contrasting findings may be, firstly, the longer time spent on skill practice in physical education classes in Spain and, secondly, the fact that children are allowed to move physically in a controlled way during free play (Lahuerta-Contell et al., 2021). In contrast to the current research findings, in the Belgian sample, Van Cauwenberghe et al. (2012) reported that preschool teachers generally provided instruction for about 50% of the time and managed to do so for 23.2% of the time in physical education classes. In the same study, observation time accounted for only 3.2% of class time. In this case, to increase pupils' levels of physical activity, teachers' actions that contribute to pupils' level of physical activity need to change from being observers, as in the results of this study, to instructors, as in the literature. In a study conducted by Chow et al. (2015a) in a preschool setting in Hong Kong, teachers demonstrated classroom management behaviors for almost half of the physical education class time (46.5%), observed for 25.4%, and promoted fitness behaviors for 21.2%. Teachers' time spent on general instruction was relatively low (6.7%) in the same study. Contrary to our research findings that teachers were mainly involved in student observation, it wouldn't be wrong to say that spending more time on administrative activities has a positive effect, mainly if the course content includes skill practice and administrative activities within the course that help get children moving and increase children's physical activity (Chow et al., 2015a). The main reason for the fact that teachers in both public and private schools observe their pupils for most of the practices could be that the pupils are mostly playing competitive games within the framework of Movement Activity practices. The behaviour of stopping and intervening during this competition is not shown because it is contrary to the nature of competition.

Another remarkable finding concerning teacher interaction is that physical activity, fitness, and motor skills were not promoted by teachers in class or out of class for the majority of the Movement Activity practice time in both public schools (96.69%) and private schools (99.31%). Similar to the findings of the current study, a study of preschool children in Hong Kong by Chow et al. (2015b) found that physical activity was not encouraged both in and out of class for 98.8% of the time in physical education classes. Brown et al. (2009), when observing physical activity levels in preschool physical education classrooms in the United States, reported that children were sedentary for 89% of class time and that teachers rarely encouraged children to increase or decrease their physical activity during their observations. In preschool settings, the beliefs, attitudes, and creativity of teachers about physical activity determine whether or not children are physically active, as teachers determine what activities students participate in (Copeland et al., 2012). Evidence from national and international studies suggests that regular physical activity, established as a lifelong practice from an early age, should not only be

encouraged but remain a focus of ongoing research in this field. Given that the curricular lesson context/content in the current study is primarily designed as a game that keeps students inactive, that students' physical activity levels are low, and that the types of physical activity are mostly lying down, sitting, standing, or squatting, and that the teacher observes most of the class time without interfering with students, it is not surprising that physical activity is not promoted inside or outside of school in public and private schools. Creating an environment that encourages active involvement involves designing a learning environment where children engage in physical activity as a part of the classroom experience, and where teachers take an active role in supporting pupils' progress in achieving set educational objectives within this dynamic learning environment.

Several limitations to this study should be acknowledged, and that may guide further research. A significant limitation is that only female teachers were included in this study and that a convenience sampling method was used to determine which female teachers were included rather than a random sampling method. For the Movement Activity practices that were observed as part of the research, both permission and an appointment were arranged before the observation. As the teachers were informed in advance, they may not have reflected natural teaching behaviors in the videotaped Movement Activity practices. A further limitation of the study is the fact that only a single observation was carried out for each teacher. Although the schools included in the study were categorized into public schools and private schools, the relationship between school characteristics and SOFIT-P and SOFIT categories could not be examined because the facilities of the schools were not considered as study variables. Despite its limitations, the present study also has some strengths. Firstly, the study contributed to the limited international and especially national literature in terms of identifying children's levels of physical activity, the types of physical activities that children engaged in, the curricular lesson context/content of teaching, teacher involvement, and teacher interactions in the preschool Movement Activity practices. Unlike most data collection methods used to assess physical activity in the preschool, which typically rely on information provided by teachers or parents, this study utilized direct observation as a means of data collection. Direct observation is a crucial technique as it uncovers real-time insights into the dynamics of the classroom environment and physical activities taking place within it.

Conclusion

In conclusion, according to the current study comparing public and private preschools regarding students' physical activity levels, the findings showed that preschoolers in both public and private preschools engage in minimal physical activity and spend most of their Movement Activity practice time sitting or standing. Similar results were obtained when analyzing the type of physical activity the students engaged in within the research framework. It was observed that the type of physical activity of the students in the Movement Activity practices in both public and private schools consisted of lying/sitting/standing/squatting at a high rate, except for dance/jump/skip activities (which were used more in the public schools than in the private schools, but were used in 10% of the lessons in both schools). When comparing the practices of public and private schools in terms of the context/content of Movement Activity practices, it was found that both public and private schools included a large percentage of gameplay content in the practice time, in addition to the findings that public schools spent more time on knowledge content and private schools spent more time on fitness content. In terms of teacher involvement, although the observed lessons show that public school teachers spend more time on instructing in general, managing, and other tasks than private school teachers, the time spent on these activities is short, but the most salient and critical finding for both types of schools is that teachers observe students during most of the Movement Activity practices. Finally, teachers in both public and private schools were found not to promote physical activity in and out of the classroom during nearly all of their Movement Activity practice time. These results showed that the inclusion of games by preschool teachers in physical activity practices and the observational

behavior of teachers did not increase children's physical activity. Based on these results, it appears that the level of physical activity in preschool Movement Activities is not in line with the objectives of the MoNE preschool program or the WHO guidelines and recommendations for physical activity in children.

Suggestions

It is expected that the results of this research will have important implications for educational policymakers, in-service preschool teachers, and teacher candidates about preschool education. In-service preschool teachers can be offered professional development seminars to increase preschoolers' physical activity levels, primarily through Movement Activities and other practices. Based on the findings of this research, movement-related courses such as physical education and physical activity in preschool teacher education programs can be reviewed and expanded to enhance the skills of teacher candidates who are future teachers in promoting physical activity levels of preschool students. As only female teachers were included in this study, it is possible to make comparisons of similar variables by observing both female and male teachers in similar studies. The present study added very significant findings to the literature by identifying physical activity, curricular lesson context/content, and teacher behaviors through observations in the preschool Movement Activity practices. However, it did not explore the possible reasons for the findings. Therefore, future studies can consider variables such as teacher characteristics, school characteristics, and student characteristics to explain these issues and conduct mixed-design research that combines quantitative and qualitative research. The findings on physical activity, curricular lesson context/content, and teacher behaviors in early childhood Movement Activity practices can be compared with the course content taken by undergraduate students in early childhood teacher education programs to become proficient in physical activity.

References

- Adams, D. K. (2002). *Education and national development: Priorities, policies, and planning*. Asian Development Bank.
- Ali, A., Pigou, D., Clarke, L., & McLachlan, C. (2017). Literature review on motor skill and physical activity in preschool children in New Zealand. *Advances in Physical Education*, 7(1), 10-26. <https://doi.org/10.4236/ape.2017.71002>
- Aubert, S., Brazo-Sayavera, J., González, S. A., Janssen, I., Manyanga, T., Oyeyemi, A. L., Picard, P., Sherar, L. B., Turner, E., & Tremblay, M. S. (2021). Global prevalence of physical activity for children and adolescents; inconsistencies, research gaps, and recommendations: A narrative review. *International Journal of Behavioral Nutrition and Physical Activity*, 18(81), 1-11. <https://doi.org/10.1186/s12966-021-01155-2>
- Bakken, L., Brown, N., & Downing, B. (2017). Early childhood education: The long-term benefits. *Journal of Research in Childhood Education*, 31(2), 255-269. <https://doi.org/10.1080/02568543.2016.1273285>
- Batista, M. B., Romanzini, C. L. P., Barbosa, C. C. L., Blasquez Shigaki, G., Romanzini, M., & Ronque, E. R. V. (2019). Participation in sports in childhood and adolescence and physical activity in adulthood: A systematic review. *Journal of Sports Sciences*, 37(19), 2253-2262. <https://doi.org/10.1080/02640414.2019.1627696>
- Bower, J. K., Hales, D. P., Tate, D. F., Rubin, D. A., Benjamin, S. E., & Ward, D. S. (2008). The childcare environment and children's physical activity. *American Journal of Preventive Medicine*, 34(1), 23-29. <https://doi.org/10.1016/j.amepre.2007.09.022>
- Broekhuizen, K., Scholten, A. M., & de Vries, S. I. (2014). The value of (pre) school playgrounds for children's physical activity level: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, 11(59), 1-28. <https://doi.org/10.1186/1479-5868-11-59>
- Brown, W. H., Pfeiffer, K. A., McIver, K. L., Dowda, M., Addy, C. L., & Pate, R. R. (2009). Social and environmental factors associated with preschoolers' non-sedentary physical activity. *Child Development*, 80(1), 45-58. <https://doi.org/10.1111/j.1467-8624.2008.01245.x>
- Bushnell, E. W., & Boudreau, J. P. (1993). Motor development and the mind: The potential role of motor abilities as a determinant of aspects of perceptual development. *Child Development*, 64(4), 1005-1021. <https://doi.org/10.1111/j.1467-8624.1993.tb04184.x>
- Can, E., & Kılıç, Ş. (2019). Okul öncesi eğitim: Temel sorunlar ve çözüm önerileri. *Milli Eğitim Dergisi*, 48(1), 483-519.
- Canbeldek, M., & Işıkoğlu Erdoğan, N. (2016). Okul öncesi eğitim kurumlarında kalite ile çocukların gelişim düzeyleri arasındaki ilişkinin incelenmesi. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 16(3), 792-809.
- Cardon, G. M., & De Bourdeaudhuij, I. M. (2008). Are preschool children active enough? Objectively measured physical activity levels. *Research Quarterly for Exercise and Sport*, 79(3), 326-332. <https://doi.org/10.1080/02701367.2008.10599496>
- Center on the Developing Child. (2010). *The foundations of lifelong health are built in early childhood*. <https://developingchild.harvard.edu>
- Cheung, P. (2020). Teachers as role models for physical activity: Are preschool children more active when their teachers are active?. *European Physical Education Review*, 26(1), 101-110. <https://doi.org/10.1177/1356336X19835240>
- Chow, B. C., McKenzie, T. L., & Louie, L. (2015a). Children's physical activity and associated variables during preschool physical education. *Advances in Physical Education*, 5(1), 39-49. <https://doi.org/10.4236/ape.2015.51005>
- Chow, B. C., McKenzie, T. L., & Louie, L. (2015b). Physical activity and its contexts during preschool classroom sessions. *Advances in Physical Education*, 5(3), 194-203. <https://doi.org/10.4236/ape.2015.53024>

- Coe, D. P. (2020). Means of optimizing physical activity in the preschool environment. *American Journal of Lifestyle Medicine*, 14(1), 16-23. <https://doi.org/10.1177/1559827618818419>
- Coelho, V. A. C., & Tolocka, R. E. (2020). Levels, factors and interventions of preschool children physical activity: A systematic review. *Ciencia & Saude Coletiva*, 25(12), 5029-5039. <https://doi.org/10.1590/1413-812320202512.14332018>
- Coleman, B., & Dymont, J. E. (2013). Factors that limit and enable preschool-aged children's physical activity on child care centre playgrounds. *Journal of Early Childhood Research*, 11(3), 203-221. <https://doi.org/10.1177/1476718X12456250>
- Copeland, K. A., Kendeigh, C. A., Saelens, B. E., Kalkwarf, H. J., & Sherman, S. N. (2012). Physical activity in child-care centers: Do teachers hold the key to the playground?. *Health Education Research*, 27(1), 81-100. <https://doi.org/10.1093/her/cyr038>
- Council of Higher Education. (2018). *Okul öncesi öğretmenliği lisans programı*. https://eski.yok.gov.tr/Documents/Kurumsal/egitim_ogretim_dairesi/Yeni-Ogretmen-Yetistirme-Lisans-Programlari/Okul_Oncesi_Ogretmenligi_Lisans_Programi.pdf
- Dapp, L. C., Gashaj, V., & Roebbers, C. M. (2021). Physical activity and motor skills in children: A differentiated approach. *Psychology of Sport and Exercise*, 54, 101916. <https://doi.org/10.1016/j.psychsport.2021.101916>
- Davies, M. (1997). The teacher's role in outdoor play: Preschool teachers' beliefs and practices. *Journal of Australian Research in Early Childhood Education*, 1, 10-20.
- Dowda, M., Brown, W. H., McIver, K. L., Pfeiffer, K. A., O'Neill, J. R., Addy, C. L., & Pate, R. R. (2009). Policies and characteristics of the preschool environment and physical activity of young children. *Pediatrics*, 123(2), e261-e266. <https://doi.org/10.1542/peds.2008-2498>
- Dowda, M., Pate, R. R., Trost, S. G., Almeida, M. J. C., & Sirard, J. R. (2004). Influences of preschool policies and practices on children's physical activity. *Journal of Community Health*, 29, 183-196. <https://doi.org/10.1023/B:JOHE.0000022025.77294.af>
- Eroğlu, Ö., & Şimşek, H. A. (2021). The critical pedagogical approach to pre-school education in Turkey. *Eurasian Journal of Social and Economic Research (EJSER)*, 8(2), 387-397.
- Figuerola, R., & An, R. (2017). Motor skill competence and physical activity in preschoolers: A review. *Maternal and Child Health Journal*, 21(1), 136-146. <https://doi.org/10.1007/s10995-016-2102-1>
- Finn, K., Johannsen, N., & Specker, B. (2002). Factors associated with physical activity in preschool children. *The Journal of Pediatrics*, 140(1), 81-85. <https://doi.org/10.1067/mpd.2002.120693>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education*. McGraw-Hill.
- Froehlich Chow, A., & Humbert, L. (2011). Physical activity and nutrition in early years care centres: Barriers and facilitators. *Canadian Children*, 36(1), 26-30. <https://doi.org/10.18357/jcs.v36i1.15136>
- Gabbard, C., Caçola, P., & Bobbio, T. G. (2009). Studying motor development: A biological and environmental perspective. In A. Baig & E. Kahraman (Eds.), *Environmentalism: Environmental strategies, and environmental sustainability* (p. 8). Nova Science Publishers.

- Gandotra, A., Kotyuk, E., Bizonics, R., Khan, I., Petánszki, M., Kiss, L., Paulina, L., & Cserjesi, R. (2023). An exploratory study of the relationship between motor skills and indicators of cognitive and socio-emotional development in preschoolers. *European Journal of Developmental Psychology*, 20(1), 50-65. <https://doi.org/10.1080/17405629.2022.2028617>
- Goldfield, G. S., Harvey, A., Grattan, K., & Adamo, K. B. (2012). Physical activity promotion in the preschool years: A critical period to intervene. *International Journal of Environmental Research and Public Health*, 9(4), 1326-1342. <https://doi.org/10.3390/ijerph9041326>
- Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2018). Worldwide trends in insufficient physical activity from 2001 to 2016: A pooled analysis of 358 population-based surveys with 1·9 million participants. *The Lancet Global Health*, 6(10), e1077-e1086. [https://doi.org/10.1016/S2214-109X\(18\)30357-7](https://doi.org/10.1016/S2214-109X(18)30357-7)
- Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2020). Global trends in insufficient physical activity among adolescents: A pooled analysis of 298 population-based surveys with 1.6 million participants. *The Lancet Child & Adolescent Health*, 4(1), 23-35. [https://doi.org/10.1016/S2352-4642\(19\)30323-2](https://doi.org/10.1016/S2352-4642(19)30323-2)
- Hinkley, T., Salmon, J., Okely, A. D., Hesketh, K., & Crawford, D. (2012). Correlates of preschool children's physical activity. *American Journal of Preventive Medicine*, 43(2), 159-167. <https://doi.org/10.1016/j.amepre.2012.04.020>
- Hirvensalo, M., Lintunen, T., & Rantanen, T. (2000). The continuity of physical activity-a retrospective and prospective study among older people. *Scandinavian Journal of Medicine & Science in Sports*, 10(1), 37-41. <https://doi.org/10.1034/j.1600-0838.2000.010001037.x>
- Hnatiuk, J., Ridgers, N. D., Salmon, J. O., Campbell, K., McCallum, Z. O. E., & Hesketh, K. (2012). Physical activity levels and patterns of 19-month-old children. *Medicine and Science in Sports and Exercise*, 44(9), 1715-1720. <https://doi.org/10.1249/MSS.0b013e31825825c4>
- Iverson, J. M. (2010). Developing language in a developing body: The relationship between motor development and language development. *Journal of Child Language*, 37(2), 229-261. <https://doi.org/10.1017/S0305000909990432>
- Kippe, K. O., & Lagestad, P. A. (2018). Kindergarten: Producer or reducer of inequality regarding physical activity levels of preschool children. *Frontiers in Public Health*, 6, 361. <https://doi.org/10.3389/fpubh.2018.00361>
- Kohl, H., & Cook, H. (2013). *Educating the student body: Taking physical activity and physical education to school*. The National Academies Press.
- Lahuerta-Contell, S., Molina-García, J., Queralt, A., Bernabé-Villodre, M. D. M., & Martínez-Bello, V. E. (2021). Ecological correlates of Spanish preschoolers' physical activity and sedentary behaviours during structured movement sessions. *European Physical Education Review*, 27(3), 636-653. <https://doi.org/10.1177/1356336X20982631>
- Lea, D. R., & Polster, P. P. (2010). Preschool facilities: Are states providing adequate guidance?. *School Business Affairs*, 76(5), 24-26.
- Macdonald, K., Milne, N., Pope, R., & Orr, R. (2021). Factors influencing the provision of classroom-based physical activity to students in the early years of primary school: A survey of educators. *Early Childhood Education Journal*, 49(3), 361-373. <https://doi.org/10.1007/s10643-020-01076-y>
- Martínez-Bello, V. E., & Estevan, I. (2021). Physical activity and motor competence in preschool children. *Children*, 8(4), 305. <https://doi.org/10.3390/children8040305>
- McKenzie, T. L. (2005). *System for observing fitness instruction time (SOFIT) procedures manual*. San Diego State University.
- Micozkadıoğlu, İ. İ., & Berument, S. (2011). Okul öncesi kurum kalitesinin ilköğretim çocuklarının sosyal yeterliği ve akademik başarısına etkisi. *Marmara Üniversitesi Atatürk Eğitim Fakültesi Eğitim Bilimleri Dergisi*, 33(33), 123-140.

- Milli Eğitim Temel Kanunu. (1973, 24 Haziran). *Resmi Gazete* (Sayı: 14574). <https://www.mevzuat.gov.tr/mevzuatmetin/1.5.1739.pdf>
- Ministry of National Education. (2013). *Okul öncesi eğitim programı*. https://mufredat.meb.gov.tr/Dosyalar/20195712275243-okuloncesi_egitimprogrami.pdf
- Ministry of National Education. (2024). *Temel Eğitim Genel Müdürlüğü okul öncesi eğitim programı*. <https://tegm.meb.gov.tr/dosya/okuloncesi/guncellenenokuloncesiegitimprogrami.pdf>
- Pallant, J. (2011). *SPSS survival manual* (4th ed.). Allen & Unwin.
- Pate, R. R., McIver, K., Dowda, M., Brown, W. H., & Addy, C. (2008). Directly observed physical activity levels in preschool children. *Journal of School Health*, 78(8), 438-444. <https://doi.org/10.1111/j.1746-1561.2008.00327.x>
- Pica, R. (2011). Why preschoolers need physical education. *YC Young Children*, 66(2), 56-57. <http://www.jstor.org/stable/42730722>
- Rentzou, K. (2014). The quality of the physical environment in private and public infant/toddler and preschool Greek day-care programmes. *Early Child Development and Care*, 184(12), 1861-1883. <https://doi.org/10.1080/03004430.2014.891991>
- Reynolds, A. J., Temple, J. A., White, B. A., Ou, S. R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the child-parent center early education program. *Child Development*, 82(1), 379-404. <https://doi.org/10.1111/j.1467-8624.2010.01563.x>
- Riggs, M. L. (1980). *Movement education for preschool children*. Association of the American Alliance for Health, Physical Education, Recreation & Dance.
- Robinson, L. E., Palmer, K. K., Webster, E. K., Logan, S. W., & Chinn, K. M. (2018). The effect of CHAMP on physical activity and lesson context in preschoolers: A feasibility study. *Research Quarterly for Exercise and Sport*, 89(2), 265-271. <https://doi.org/10.1080/02701367.2018.1441966>
- Sabancı, A., Altun, M., & Uçar Altun, S. (2018). Problems encountered in pre-school education according to the views of school managers, teachers and parents. *Educational Administration: Theory & Practice*, 24(2), 339-385.
- Sahoo, K., Sahoo, B., Choudhury, A. K., Sofi, N. Y., Kumar, R., & Bhadoria, A. S. (2015). Childhood obesity: Causes and consequences. *Journal of Family Medicine and Primary Care*, 4(2), 187-192. <https://doi.org/10.4103/2249-4863.154628>
- Schwimmer, J. B., Burwinkle, T. M., & Varni, J. W. (2003). Health-related quality of life of severely obese children and adolescents. *JAMA*, 289(14), 1813-1819. <https://doi.org/10.1001/jama.289.14.1813>
- Sharma, S. V., Chuang, R. J., Skala, K., & Atteberry, H. (2011). Measuring physical activity in preschoolers: Reliability and validity of the System for Observing Fitness Instruction Time for Preschoolers (SOFIT-P). *Measurement in Physical Education and Exercise Science*, 15(4), 257-273. <https://doi.org/10.1080/1091367X.2011.594361>
- Sitati, E. M., Ndirangu, M., Kennedy, B., & Rapongo, G. S. (2016). Implementation of early childhood development education service standard guidelines on physical facilities in public and private early childhood education centres Kakamega County, Kenya. *Early Child Development and Care*, 186(11), 1765-1778. <https://doi.org/10.1080/03004430.2015.1131159>
- Sofo, S., & Asola, E. F. (2015). Perceived barriers to teaching movement and physical activity to kindergarteners in Ghana. *Journal of Education and Practice*, 6(36), 134-140.
- Telama, R., Yang, X., Viikari, J., Välimäki, I., Wanne, O., & Raitakari, O. (2005). Physical activity from childhood to adulthood: A 21-year tracking study. *American Journal of Preventive Medicine*, 28(3), 267-273. <https://doi.org/10.1016/j.amepre.2004.12.003>

- Tremblay, L., Boudreau-Larivière, C., & Cimon-Lambert, K. (2012). Promoting physical activity in preschoolers: A review of the guidelines, barriers, and facilitators for implementation of policies and practices. *Canadian Psychology/Psychologie Canadienne*, 53(4), 280-290. <https://doi.org/10.1037/a0030210>
- Tucker, P. (2008). The physical activity levels of preschool-aged children: A systematic review. *Early Childhood Research Quarterly*, 23(4), 547-558. <https://doi.org/10.1016/j.ecresq.2008.08.005>
- Van Cauwenberghe, E., Labarque, V., Gubbels, J., De Bourdeaudhuij, I., & Cardon, G. (2012). Preschooler's physical activity levels and associations with lesson context, teacher's behavior, and environment during preschool physical education. *Early Childhood Research Quarterly*, 27(2), 221-230. <https://doi.org/10.1016/j.ecresq.2011.09.007>
- Van der Mars, H. (1989). Observer reliability: Issues and procedures. In P. W. Darst, D. Zakrajsek, & V. H. Mancini (Eds.), *Analyzing physical education and sport instruction* (2nd ed., pp. 53-80). Human Kinetics.
- Von Hofsten, C. (2004). An action perspective on motor development. *Trends in Cognitive Sciences*, 8(6), 266-272. <https://doi.org/10.1016/j.tics.2004.04.002>
- Williams, H. G., Pfeiffer, K. A., O'Neill, J. R., Dowda, M., McIver, K. L., Brown, W. H., & Pate, R. R. (2008). Motor skill performance and physical activity in preschool children. *Obesity*, 16(6), 1421-1426. <https://doi.org/10.1038/oby.2008.214>
- World Health Organization. (2009). *Global health risks: Mortality and burden of disease attributable to selected major risks*. WHO Press.
- World Health Organization. (2019). *Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age*. <https://iris.who.int/handle/10665/311664>
- World Health Organization. (2020). *Noncommunicable diseases: Childhood overweight and obesity*. <https://www.who.int/news-room/questions-and-answers/item/noncommunicable-diseases-childhood-overweight-and-obesity>
- World Health Organization. (2021). *Obesity and overweight*. <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
- World Obesity Federation. (2019). *Atlas of childhood obesity*. https://s3-eu-west-1.amazonaws.com/wof-files/11996_Childhood_Obesity_Atlas_Report_ART_V2.pdf
- Yıldız, C. D. (2018). Okul öncesi eğitim kurumlarının yönetiminde yaşanan zorlukların değerlendirilmesi. *Anemon Muş Alparslan Üniversitesi Sosyal Bilimler Dergisi*, 6(STEMES'18), 95-102. <https://doi.org/10.18506/anemon.465821>
- Yon, K., & Saraç, L. (2022). Classroom teachers' practices of physical activity in 4th-grade physical education and game course. *Education & Science*, 47(211), 47-67. <https://doi.org/10.15390/EB.2022.11438>



Flipped learning model practices in social studies course in primary school *

Can Uyanık ¹, Ömür Gürdoğan Bayır ², Mehmet Gültekin ³

Abstract

Learning environments are undoubtedly one of the important factors in enabling the learner to access information easily and effectively. It is not possible to expect effective access to knowledge in a teaching approach in which the teaching environment has unchanging patterns, the teacher assumes the role of absolute transmitter and the students listen to what they are told as passive individuals. Today's understanding of education, instead of teaching practices with all these restrictive features, has begun to change direction towards an understanding of education in which the student actively participates in the process of acquiring knowledge, learns by experiencing, experimenting, questioning and discovering, and the teacher designs and guides this whole process. At the same time, technology, which is the pioneer of change by affecting all areas of society, has inevitably started to be used in educational environments. With the use of technology in educational environments, teaching approaches in which teaching is carried out of the classroom independently of time and place have become widespread. Today, one of the teaching approaches suitable for this understanding is the flipped learning model. With this model, the traditionally defined teaching approach is reversed. Accordingly, the theoretical part of the course, which includes the processes of acquiring knowledge, was moved outside the classroom. In the classroom, the effectiveness of learning environments is tried to be increased through learning experiences in which students are active. The primary school period has a critical importance in the development of a teaching approach in which learners take responsibility for their own learning processes, actively participate in teaching experiences and use online environments for educational purposes as a competence in students. Because this competence, which will be developed in students in primary school, will form a basis for them to take responsibility for their own learning, to discover ways of accessing

Keywords

Social studies
Flipped learning
Action research
Virtual classroom
Technology

Article Info

Received: 03.15.2024
Accepted: 01.27.2025
Published Online: 08.12.2025

DOI: 10.15390/ES.2025.2577

* This article is derived from Can Uyanık's PhD dissertation entitled "Flipped Classroom practices in primary school social studies lesson: An action research", conducted under the supervision of Ömür Gürdoğan Bayır and Mehmet Gültekin.

¹ Siirt University, Faculty of Education, Department of Primary Education, Siirt, Türkiye, can.uyanik@siirt.edu.tr

² Anadolu University, Faculty of Education, Department of Primary Education, Eskişehir, Türkiye, ogurdogan@anadolu.edu.tr

³ Anadolu University, Faculty of Education, Department of Primary Education, Eskişehir, Türkiye, mgulteki@anadolu.edu.tr

information and to use online environments for educational purposes. All courses in primary school serve the purpose of preparing individuals for the social, cultural and economic tasks they will take when they become adults, and providing the most basic knowledge and skills for these tasks. Social sciences course is one of these courses. The aim of this research is to determine the reflections of the flipped learning model on the learning-teaching process within the scope of primary school Social Studies course and to reveal the applicability of the model at primary school level. The research was carried out with action research design from qualitative research methods. The participants of the study were determined by using criterion sampling from purposeful sampling methods. In this context, the research was conducted with 8 primary school 4th grade students. The data collection process was carried out in two interconnected stages: field entry and application process. In the process of entering the field, data were collected through academic achievement tests to identify students who had problems in the Social Studies course. Then, teaching activities based on the flipped learning model were carried out. On the other hand, action plans were developed to solve the problems encountered during the process. In this process, more than one data collection tool including observation, interview, researcher diary, student diaries, student products, virtual classroom environment data were utilised. Data were analysed simultaneously. The data obtained were analysed with inductive approach. A total of seven action cycles designed according to the flipped learning model were carried out with the students in the social studies course. As a result of the research, it was determined that the students enjoyed the teaching process based on the flipped learning model, and that the model allowed the students to progress at their own individual pace, to repeat and to access the course content at any time. It was also observed that there was an improvement in the academic achievement of the students. As a result, it was determined that the flipped learning model is beneficial for students' cognitive and sensory development. In this direction, it is suggested that this model should be used as a teaching approach in primary school level and social studies course.

Introduction

In educational environments dominated by traditional methods, it is not possible for students to learn by thinking, researching and structuring knowledge. As a result of such a process, which is usually carried out with a teacher-oriented approach, students graduate from educational institutions with superficial knowledge that they memorise (Akpınar & Gezer, 2010). As a result of this situation, as individuals who have not developed creativity, higher-order thinking, problem solving and research skills, they cannot take steps to produce solutions in the face of complex situations they encounter in the later periods of their lives (Özpolat, 2013). The inadequacy of traditional teaching approaches to gain the knowledge, skills, attitudes and values required by the age has paved the way for new developments in the field of educational sciences. Accordingly, in many developed countries, effective learning approaches centred on the student have come to the fore (Açıkgöz, 2002). This change in the understanding of teaching has led to a different view of the teacher. With this new perspective, the

understanding that the teacher is the absolute source of knowledge has been moved beyond. Accordingly, the teacher was asked to assume a role in designing the student's processes of accessing and constructing knowledge. While the need for a structuring in educational environments is felt with this change in the understanding of teaching on the one hand, on the other hand, the impact of technological developments that rapidly affect the society has started to be felt rapidly. It is not possible to continue with an understanding of education that cannot meet the needs of individuals born in the age of technology. For this reason, efforts to integrate developing technologies with educational processes have gained momentum. All these developments have made it necessary to redesign learning environments (Hayırsever & Orhan, 2018).

In recent years, it is seen that teaching approaches that integrate teaching practices and developing technologies have become widespread. One of the prominent approaches in these integration efforts is the blended learning model. This learning model is an instructional approach that utilises the advantages of face-to-face and distance learning environments to complement the weaknesses of both learning environments (Garrison & Kanuka, 2004). Blended learning, with the help of technology, allows students to realise teaching activities in and out of the classroom by doing and experiencing. Teachers have a guiding responsibility in designing all these processes (Santepeci & Yıldız, 2014; Sontay & Karamustafaoğlu, 2022). Since the blended learning model offers the opportunity to use online tools in educational environments, students have the opportunity to access teaching practices even outside the classroom. In this way, the time, place and speed of teaching activities can be adjusted by the student themselves according to their own needs. Students perform some teaching activities outside the classroom with their own efforts. In the classroom, they perform face-to-face teaching practices. As a result of this integration, the blended learning process is completed. The main purpose of conducting teaching processes based on blended learning application is to ensure more efficient use of the time allocated for teaching in the classroom (Demetry, 2010; Stein & Graham, 2014). In terms of having a student-centred understanding, defining a guiding role for the teacher in the whole teaching process and integrating teaching activities with technology, blended learning is a model that can provide the desired qualities of educational environments today.

In the literature, different classifications have been made regarding the application forms of blended learning (Rossett & Frazee, 2006; Staker & Horn, 2012; Twigg, 2003). Within the scope of this research, the blended learning classification of Staker and Horn (2012) was taken into consideration. The reason for using Staker and Horn's (2012) classification in this research is that it addresses blended learning approaches in a clear, systematic and inclusive framework. The related model defines different forms of implementation in accordance with the needs of the research. The relevant model is shown in Figure 1.

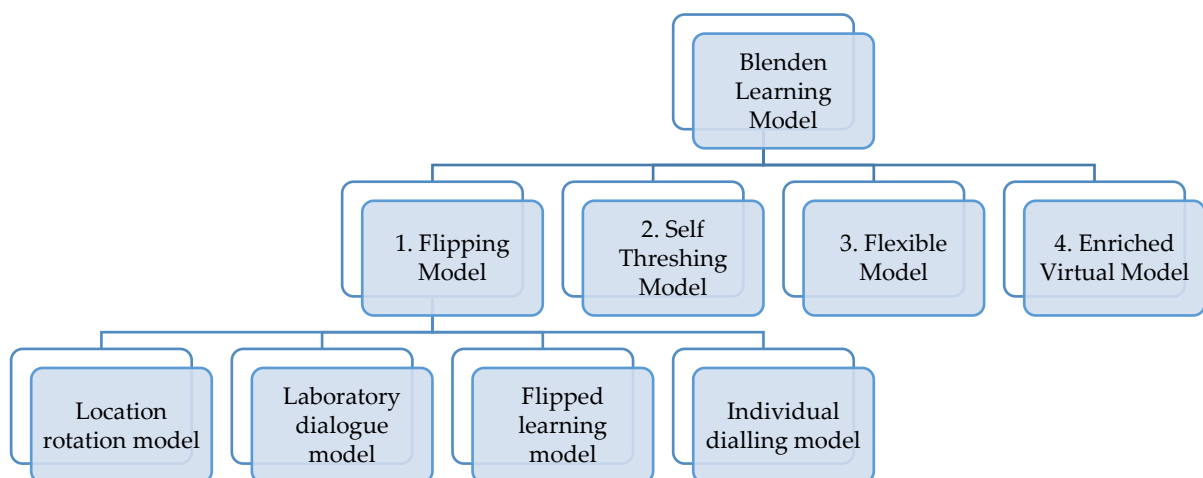


Figure 1. Staker and Horn's classification of blended learning

According to Staker and Horn (2012), blended learning can be applied in different ways for educational purposes. The quality of the applications is determined by variables such as the type, time, weight of the technologies used and the role of the individuals involved in the teaching practices. The flipped learning (FL) model used in this research is one of the ways of applying the 'flipping model' within the blended learning classification (Staker & Horn, 2012). With the 'flipping model', students switch between different learning environments within a programme, course or a subject. The basic principle in this practice is that at least one of the environments used should be an online learning environment (Staker & Horn, 2012). Accordingly, other environments can be designed as face-to-face, group work or project assignments. The FL model is one of the models designed based on this principle (Staker & Horn, 2012). This learning approach, which is named as 'inverted classrooms, flipped classrooms, flipped learning' (Bishop & Verleger, 2013; Talbert, 2012) in the literature, has been translated into Turkish as inverted learning model (Karaca, 2016; Koçak, 2019; Ok, 2019; Yıldız, 2017), flipped classroom model (Çevikbaş, 2018; İyitoğlu, 2018), reverse education (Boyraz, 2014), transformed classroom model (Talan, 2018; Uçar & Bozkurt, 2018) and flipped learning (Filiz & Kurt, 2015; Sever, 2014). Although the nomenclature of the model is different, the definitions are similar to each other. In the most general sense, FL model is defined as a learning model in which educational technologies and face-to-face teaching activities are handled together (O'neil et al., 2012). In this model, in which students are expected to reach basic level knowledge outside the classroom with their own efforts, it is aimed that the time in the classroom is mainly allocated to higher level skills such as application, problem solving and discussion (Johnson, 2012). In other words, the FL model is based on the idea that students come to school by completing their preparations for the lessons outside the classroom (Bergmann & Sams, 2014). In the FL model, the teaching process takes place in three stages: pre-class, class and evaluation (Bergmann & Sams, 2012; McLaughlin et al., 2016; Talbert, 2012). The pre-class phase refers to the process in which the content is shared with the students through the online environment and the students are prepared for the content shared in line with their own needs. The in-class phase refers to the process in which students can demonstrate their competences and make practices that can reinforce what they have learnt individually or in groups through active participation. In the third stage, students' out-of-class and in-class activities are evaluated using various strategies (McLaughlin et al., 2016).

The FL model is based on the peer instruction method developed by Eric Mazur, a physics educator at Harvard University, in the early 1990s (Correa, 2015). With this method, Mazur suggested that in order for the students to learn the concepts in complex subjects, the course readings should be given to them in advance and the homework based on the readings should be left to the class (Mazur, 1997). For this purpose, Mazur has developed an electronic platform where students can read from textbooks, gain basic knowledge before class, and ask and answer questions to each other. In this way, by allocating the time in the classroom to student-centred activities, it aimed to reinforce knowledge and eliminate missing or incorrect learning (Talbert, 2017). A similar practice was developed by Professor J.W. Baker at Cedarville University in the USA. Professor Baker noticed that students wrote down what they were told in their notebooks during lectures and did not think about the information they wrote down. Professor Baker has argued that classroom time has failed to move beyond a structure in which knowledge is transmitted under the guidance of the teacher and students merely take notes. Aiming to change this situation and enrich the time in the classroom, Baker decided to share the lesson presentations he prepared with his students before the lesson. In line with this decision, he asked the students to work on the presentations he would share with them before coming to the lesson. Professor Baker described this method, which he developed and applied in a conference in 2000, as classroom flip (Baker, 2000). In 2007, the first example of the FL model in secondary education was applied by Bergmann and Sams. These two educators shared the presentations with their students by recording the presentations in audio and video format with the idea that students who missed the lectures should complete their deficiencies. According to Bergmann and Sams, students can learn basic level knowledge outside the lesson by using materials related to the lesson. In this way, they can reinforce their learning by doing higher level activities under the guidance of the teacher in the classroom (Talbert, 2017). After the success of this application in a short period of time, the FL model became recognised (Kara, 2016).

The primary aim of the classrooms where the FL model is implemented is to increase the quality of face-to-face education. In order to achieve this aim, the so-called traditional methods, which are based on teacher activity, are reversed. Accordingly, lower level skills such as transferring knowledge are left to teaching activities outside the classroom, while higher level skills such as structuring, assimilating and retaining knowledge are left to teaching activities in the classroom (Bergmann & Sams, 2014; Kansızoğlu & Bayrak Cömert, 2021; Strayer, 2012). With the FL model, teaching is no longer a one-way structure that is only teacher-oriented in the classroom. In this model, teaching is transformed into a two-dimensional structure based on teaching activities carried out inside and outside the classroom. Within this structure, the teacher is assigned the role of a guide who designs both dimensions of the teaching process. Students are expected to take responsibility for active participation in the process (King, 1993; Milman, 2012). The fact that students come to the classroom environment by studying the content prepared for them saves the time that the teacher needs to use for lecturing in the classroom. In this way, the time saved is allocated to teaching activities related to the subject. The fact that students come to the classroom environment with prior learning helps them to participate effectively in teaching processes (Morin et al., 2013).

In classrooms where traditional teaching practices are carried out, a significant part of the lesson time is devoted to the control of the homework given in the previous lesson and the presentation of the content related to the subject to be taught (Filiz & Kurt, 2015). The presentation of the instructional content by the teacher corresponds to the acquisition of low-level objectives such as recall and comprehension. However, these objectives can also be achieved by students' own individual efforts. Teaching activities corresponding to higher level objectives such as application, analysing, evaluating and creating, in which students need more guidance from the teacher, are generally tried to be gained through homework. Nevertheless, homework is the subject of many studies as a phenomenon that is constantly complained about by students, teachers and parents. In different studies, it has been concluded that homework is perceived as a burden by students, develops negative attitudes towards school, creates boredom towards studying, families are obliged to help their children to complete homework, and this situation causes stress both in themselves and in students (Duru & Çöğmen, 2017; Kırmızıgül, 2018; Öcal, 2009; Rudman, 2014; Şen & Gülcan, 2012; Van Voorhis, 2004; Warton, 2001; Xu, 2005). In the FL model, learning related to cognitive steps expressed as lower level is acquired outside the classroom through homework, while learning related to cognitive steps expressed as higher level is acquired in the classroom through active learning experiences (Arshad & Imran, 2013; Rutkowski & Moscinska, 2013). In addition, the control of out-of-class work is completely given to the students. In this way, it is ensured that students act with a sense of responsibility and have the opportunity to direct their own learning processes. From this point of view, the activities that students carry out outside the classroom go beyond the traditional understanding of homework and turn into a structure in which they develop their responsibility to do homework with pleasure (Strayer, 2007). It is important for students to enjoy the activities outside the classroom in order to ensure permanent learning. Especially for the social studies course, which is perceived as a rote-based and boring course (Çimen, 2022; Gönenç & Açıkalın, 2017), the FL model is considered important.

Social studies is a course in life that enables individuals to become equipped with effective citizenship qualities and thus to make efforts for the development of the society in which they live. Because of this structure, it requires that global and social problems are addressed in the social studies course. In this course, it is aimed that individuals recognise these problems and produce solutions to them (Gürdoğan-Bayır, 2023). The field of interest of social studies is society. In this course, importance is given to the development of social relations by enabling children to participate in the society in which they live as knowledgeable (Shamsi, 2004). The social studies course examines the place of human beings in society by making use of social sciences. In parallel with these examinations, it improves their place in society by providing individuals with knowledge, skills and values. In general, this course can be considered as a field that makes people happy, peaceful and sensitive to other living things (Deveci & Bayram, 2022). In order for the social studies course to reach the determined objectives, it is important to teach the course effectively. What is learnt in the course should be meaningful for the student and

should be from life, the course should provide permanent learning and transfer what is learnt to life. The use of technology stands out as an important tool that supports this process. Today, digital technologies support students' multidimensional thinking, problem solving and critical perspective development skills as well as providing quick access to information. Technological tools used in social studies education can provide students with the opportunity to make connections between the past and the present, to understand global events and different cultures. In fact, technology-supported learning environments strengthen cooperation and social interaction by increasing student interaction and create a more inclusive educational environment by adapting to different learning styles (Elvan & Mutlubaş, 2020). In this context, the integration of technology in the social studies course will contribute to students' access to information more effectively and critically, and to raise them as individuals who are more sensitive to social events.

There are many factors affecting students' learning in the course. The student's attitude and perception towards the course, the content of the course and the way the course is taught are some of these factors. In the social studies course, students' misuse of the internet in particular causes undesirable behaviours in the learning process (Gönenç & Açıkalın, 2017). In today's conditions, it can be said that it is wrong to keep technology and the internet away from learning processes. Considering that children are intertwined with technology, technology can be used to increase students' interest in the lesson and make the lesson fun. In this case, teachers can use strategies, methods and techniques to integrate technology with the lesson (Bennet & Scholes, 2001, cited in Alataş, 2008). One of the technology-based learning approaches that teachers can integrate into the social studies course is the FL model.

In Turkey, it is seen that the researches within the scope of FL model are mostly conducted at secondary school, high school and university level. At the primary school level, few studies based on the FL model were found (Ağırman, 2023; Çınar, 2023; Erbil, 2019; Erkan, 2023; Gürdoğan-Enderöz, 2021; Güreli Kıvrak, 2023; Güven-Demir, 2018; Kaya, 2023; Naycı, 2017; Oğuz, 2023; Sekin, 2023; Şengün, 2021; Taşkın Serbest, 2023; Uçaş, 2023). There are a limited number of studies based on FL model in primary school social studies course and they are generally based on quasi-experimental design and mixed research type in terms of methodology. These studies in the literature can be categorised under three dimensions. The first dimension includes the studies examining the effect of FL model on students' academic achievement. The second dimension includes studies focusing on determining the effect of FL model on students' motivation levels towards social studies course. The third dimension consists of studies that address the views of teachers, students and parents on the FL model.

Today, developments in technology have closely affected educational environments as well as all areas of society. It is important to integrate developing technologies with educational environments and to organise this integration in a way to cover the primary school level. Because primary school education has a critical importance in transferring social change and development to individuals through educational environments. However, the importance of the social studies course in the realisation of the individual's social existence cannot be denied. In order for individuals to be equipped with the knowledge, skills, attitudes and values required by the age and to be able to use online environments for educational purposes in parallel with the technological developments that manifest themselves in every field of society, they should be educated in a way to include the social studies course from the primary school level. The FL model can enable individuals to reach the mentioned qualities in primary school. National and international research findings reveal that FL model-based teaching practices increase students' academic achievement (Baepler et al., 2014; Bergmann & Sams, 2016; Bhagat et al., 2016), improve their self-confidence and motivation (Aras, 2021; Chao et al., 2015; Kayan, 2020; Mason et al., 2013), and ensure the retention of what is learnt (Topalak, 2016). The findings of the studies conducted in the context of primary school social studies course revealed that the FL model increased students' social studies course achievement, motivation levels towards the course and reading comprehension skills. In these studies, students stated that they found the lessons based on the FL model enjoyable, that it provided effective and collaborative learning opportunities, and that it

increased participation in the lesson. Parents, on the other hand, expressed that they were generally satisfied with the FL model and that the model increased the time students allocated for studying at home.

The fact that a limited number of studies have been conducted at the primary school level for a model that has such a positive effect on teaching processes is considered as a deficiency. In addition, this study is expected to provide an important research area in terms of revealing the usability of the flipped learning model at the primary school level and within the scope of the Social Studies course, providing researchers, teachers and prospective teachers with an idea about the possible strengths and weaknesses of the FL model, and providing resources on how the model can be used effectively in the primary school social studies course. Considering all these reasons, it is thought that this study will contribute to the literature.

Purpose of the research

As pointed out in the theoretical framework of the study, the design of teaching activities away from a student-centred approach and the failure to reflect technological developments in educational environments negatively affect the quality of education in schools (Ertmer & Ottenbreit-Leftwich, 2010; Hattie, 2008). As long as teaching practices are designed with a one-dimensional understanding based on teacher effectiveness and carried out only in the classroom environment, it will be inevitable to experience quality problems in education. In Türkiye, there are research findings that contribute to the structuring of teaching environments with a student-centred approach through various methods and techniques in the social studies course (Acar & Acar, 2023; Güneş et al., 2021; Taş & Akoğlu, 2020; Yılmaz & Çolak, 2012). It is thought that teaching practices based on the FL model will contribute to the design of teaching environments with a student-centred approach. The aim of this study is to reveal the reflections of the FL model on the learning and teaching process within the scope of primary school social studies course. On the basis of this purpose, answers to the following research questions are sought.

1. How are teaching activities based on the FL model carried out?
2. What is the effect of FL model on students' academic achievement?
3. What are the problems encountered in the implementation of FL model based teaching activities?
4. How can the problems encountered during FL model based teaching activities be solved?
5. What are the opinions of students, teachers and parents about FL model based teaching activities?

Method

Research model

Action research, which is a qualitative research design, was used in the study. Action research is a practical strategy employed in social sciences in situations that require organised and reflective research (Stringer, 2004). Action research is the process of collecting data, gathering and analysing these data in a systematic way in order to ensure change, development and improvement on a subject related to social fields (Bogdan & Biklen, 2007). Action research is described as a systematic process carried out by teachers in which information is collected about how educational activities are carried out and how well students learn, and then actions are taken to improve (Mills, 2011). The aim of this research is to reveal the reflections of the FL model on the learning and teaching process in the context of social studies course. Since the research design requires the evaluation of the process in a cycle, the action research design was found appropriate to the nature of the research.

The research process was conducted according to Mills' (2003) action research cycle. Mills lists this cycle as identifying the focus area, collecting data, analysing and interpreting data, and developing an action plan. Mills' (2003) action research cycle is shown in Figure 2.

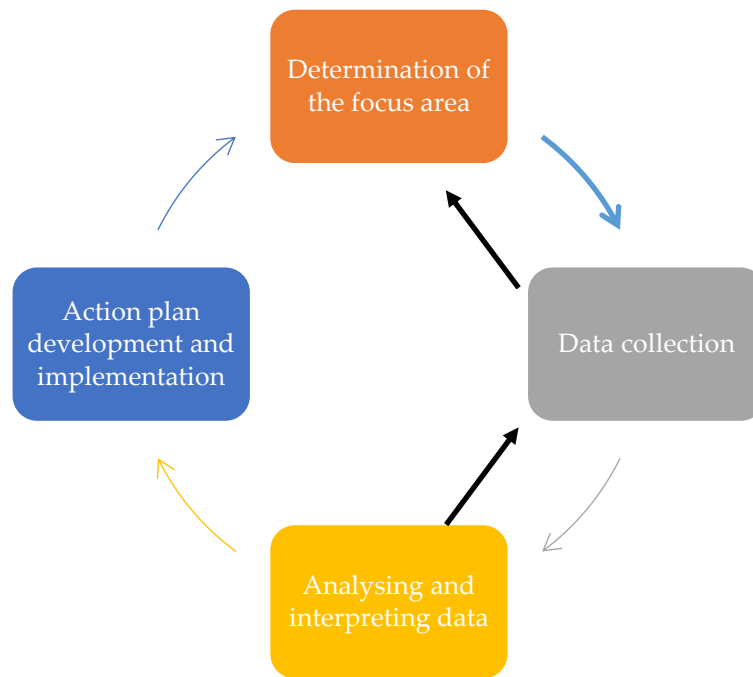


Figure 2. Mills' dialectical cycle of action research

Determination of the focus area: In action research, it is first necessary to determine the focal area to be studied. As a result of the literature review, it was found that homework causes boredom in students towards school work, causes students to develop negative attitudes towards school, families often help their children with their homework, this situation brings an additional burden to them and is perceived negatively (Duru & Çöğmen, 2017; Kırmızıgül, 2018; Öcal, 2009; Rudman, 2014; Şen & Gülcan, 2012; Van Voorhis, 2004; Warton, 2001; Xu, 2005). Following the literature review, the starting point of the research was to produce solutions that would both eliminate the existing negativities regarding homework and increase the quality of educational environments. In this process, technology-supported solutions have been focussed on the idea that the use of technology in both social life and educational environments has become widespread. Therefore, with technology, it is aimed both to enable students to be involved in teaching practices in out-of-school time and to increase the quality of teaching processes at school. In this context, blended learning applications have been guiding due to their features such as using technology in education and training processes, involving students in learning activities in school and out-of-school environments, and reducing the negative consequences of homework. Based on this view, the FL model, which is one of the application forms of blended learning, was determined as an approach that can be used in teaching processes.

Data collection: After defining the focus area of the research, data collection tools were determined by considering the research questions. The data of this study were collected through different data collection tools including semi-structured interviews with students, teachers and parents, student and researcher diaries, video recordings of in-class teaching practices, activity outputs of teaching activities, virtual classroom environment data of out-of-class teaching practices, academic achievement tests, weekly subject tests and validity committee meeting records.

Analysing and interpreting data: Data analysis in action research starts with the beginning of the implementation process and continues until the research is finalised. In this process, data collection and analysis processes continue simultaneously. In this study, the researcher recorded the lessons with a video camera every week and macro analyses were made. The data obtained as a result of the macro analyses were presented to the validity committee (see below) and inferences were made regarding the action plans to be implemented the following week. Apart from macro analyses, learning outcomes obtained from the students were evaluated, interviews were conducted, and the researcher's field notes and student diaries were kept regularly. The data obtained in this way were also presented to the

validity committee. Quantitative data collection tools were also used in the study. In this context, subject tests conducted at the end of each implementation week and learning domain achievement test scores developed by the researcher were utilised.

Action plan development and implementation: At this stage, action plans for the implementation of the FL model were prepared. The action plans prepared include activities for the implementation of the FL model and the solution of the problems encountered during the implementation. The activities were prepared in the form of lesson plans and arranged according to the learning outcomes of 'Active Citizenship' and 'Global Connections' learning areas in the 2018 Social Studies Curriculum. The implementation process of the research lasted a total of ten weeks, including two weeks of observation, seven weeks of implementation and one week of final measurements. Instructional practices were carried out three lesson hours per week for seven weeks. The activities were prepared according to the subject content in the learning areas of 'Active Citizenship' and 'Global Connections'. The activities were terminated after the validity committee members expressed their opinions that the collected data had reached sufficient saturation.

Participants

Qualitative research is conducted in detail with small samples selected in a purposeful way. In action research, which is a qualitative research design, purposeful sampling method is generally used (Özpınar & Aydoğan-Yenmez, 2014). Purposive sampling is based on the assumption that the researcher wants to explore, understand, gain insight and that it is imperative to select a sample from which most things can be learnt (Merriam, 2015). The fact that action research is not a random practice, but emphasises a systematic and collaborative process (Gürgür, 2017) makes it necessary to use purposive sampling method in such research. Within the scope of this research, criterion sampling, which is one of the purposeful sampling types, was used to determine the participants. Criterion sampling is based on the study and review of all situations that meet some predetermined criteria. The criteria or criteria mentioned here can be created by the researcher or a pre-prepared list of criteria can be utilised (Patton, 2014). The critical point in criterion sampling is that the situations to be selected are rich in terms of providing information (Yıldırım & Şimşek, 2016). In the study, criterion sampling method was used in two stages. One of these stages is the determination of the school where the application will be carried out. In determining the school, it was tried to reach the participant group that would best reflect the implementation process of the FL model. In order to reveal all positive or negative situations related to the action research process, it was planned to conduct the research under relatively more limited conditions. The reason for this is the idea that healthier results can be obtained in terms of addressing the process in all its aspects. As a result of the exploratory observations and the evaluations made with the classroom teachers working in the schools, it was decided to conduct the research in a primary school located in a low socioeconomic educational environment. The primary rationale for this decision is that the FL model offers advantages to ensure equal opportunities in education. Students with low socioeconomic status face factors such as lack of access to adequate learning resources outside the classroom (Yelgün & Karaman, 2015), insufficient materials to support learning at home (Topdağ & Çağlayan-Akay, 2024) and parents' inability to provide academic support (Erdil, 2010). These negativities make it difficult for students to actively participate in classroom learning processes (Korkmaz, 2023; Seban & Perdecı, 2016). The FL model provides students with access to educational resources outside the classroom, offers material support for teaching processes in the home environment and provides the academic support that students need outside of school. Finally, such a practice can contribute to the limited studies in the literature to understand the effects of the FL model on students with different socioeconomic profiles. The results of teaching practices for low socioeconomic students can be a guide for making education more inclusive and sustainable. From this perspective, the study can make a valuable contribution in both theoretical and practical terms.

After determining the school, it was tried to determine the class in which the application would be carried out. There are four 4th grade classes in the selected school. The teachers of these classes were interviewed and asked whether they would like to participate in the research. During the interviews, the teachers of classes A and D conveyed their concerns to the researcher that the research might disrupt their teaching practices. Class teachers of B and C classes expressed their willingness to participate in the study. The number of students in class B was 19 and the number of students in class C was 27. Due to the high number of students, it was decided to determine the participating students from the C branch. After determining the school and branch where the application would be carried out, the stage of selecting the participant students was started. Criterion sampling method was also used to select the participant students. In this context, the participant determination forms developed by the researcher and revealing the academic achievement scores of the students were applied. These forms consist of questions related to two different learning areas in which the teaching practice will be carried out. With the help of SPSS, the scores obtained by all students from the forms were ranked. The eight students with the lowest score from each achievement test were determined. Then, the relationship between the scores was revealed by correlation analysis. At this stage, the correlation coefficient was used to determine the relationship between the scores. According to the correlation coefficient obtained, the students with the lowest scores were identified and included in the action research group. The participant identification form scores of the students in the action research group are shown in Table 1.

Table 1. Participant identification form scores of participant students

Students*	Participant identification form score**
Mehmet	15
Fatma	15
Ferit	16
Merve	16
Zafer	14
Ayşe	16
Kadri	16
Rabia	15
Average score of the class	18,2

* Students were given code names; ** Total number of correct answers obtained from the active citizenship achievement test (28 questions) and global connections achievement test (25 questions).

The purpose of working with students with low academic achievement scores is to determine the results of the implementation process of the FL model in the most unfavourable situation. Demographic information about the participant students is shown in Table 2.

Table 2. Demographic information of the participant students

Variable	Name of Students *							
	Mehmet	Fatma	Ferit	Merve	Zafer	Ayşe	Kadri	Rabia
Gender	Boy	Girl	Boy	Girl	Boy	Girl	Boy	Girl
Age	11	12	10	11	10	11	11	9
Mother's education	-	Primary	Primary	-	-	High school	Primary	Primary
Father's education	Primary	High school	High school	High school	-	High school	High school	High school
Mother's employment status	-	-	-	-	-	-	-	-
Father's employment status	+	+	+	+	+	+	+	+
Monthly income (tl)	< 5500	< 5500	< 5500	< 10000	< 5000	< 5000	< 5500	< 10000
Number of family members	8	7	6	8	9	5	5	7
Pc/tablet at home	-	-	-	-	-	+	-	+
Internet at home	-	+	-	+	+	+	-	+
Using the internet while studying	-	+	-	+	+	+	-	+
Daily internet usage (hours)	-	4	2	2	2	2	-	2

* Code name were given to the participants; **The '-' sign indicates absence for number and ownership, illiteracy for educational status, and non-employment for employment status.

Research environment

The research was conducted in the spring term of the 2021-2022 academic year in the 4th grade of a public school affiliated to the Ministry of National Education in Siirt province. The implementation of the research was carried out in an unused classroom in the school. The other students, who were not included in the action research group and made up the rest of the class, carried out the social studies lesson simultaneously with their teachers in their own classrooms. In the classroom where the research was conducted, there is one smart board, one normal blackboard, teacher's desk and chair, bookcase, student desks and tables. In order to provide the necessary conditions for the students, eight student desks and eight student desks were placed in the classroom. The teacher made changes in the classroom layout from time to time according to the activities to be carried out in the classroom. Depending on the situation of the activity, the students took the U-arrangement or in groups facing the teacher. During the research process, students who did not have access to computers were provided with laptop computers, mice, headphones and tablet computers. Students were asked not to bring their laptops/tablet computers to the classroom. They were asked to use these devices only outside the classroom. At the beginning of the implementation, 3 students did not have internet access at home. The family of one of these students has fulfilled this deficiency since the first week of the implementation. The other 2 students accessed the internet by purchasing internet packages through their families' mobile phone lines. In the classroom teaching activities, the smart board of the classroom and the laptop computer brought to the classroom by the teacher were used. A video camera was used to record the in-class applications. The video camera was positioned in various parts of the classroom according to the structure of the activities carried out in the classroom.

Role of the researcher

The researcher also played the role of practitioner within the scope of the research. The researcher completed his undergraduate and graduate education in the field of Classroom Education. The researcher observed that technology integration in schools was not at the desired level both during his teaching period and during his studies at the university. She received similar feedbacks from the

teachers and school administrators she interviewed over time. The researcher started the implementation phase by going to the school where the implementation would take place for the first time on 14 March 2022 of the spring term of the 2021-2022 academic year. In this process, she carried out the identification of participating students, prepared action plans, kept video records for in-class activities and virtual classroom application records for out-of-class activities, kept student diaries for students after each application, and transferred her observations to the researcher diary as the implementing researcher. At the end of the implementation process, the researcher conducted semi-structured interviews with students, teachers and parents and micro-analysed the data collected weekly. The researcher presented the results of the analyses to the validity committee and developed the next action process in accordance with the cyclical process of action research in the light of the feedback received. The researcher acted objectively in the processes of analysing the data obtained, creating and reporting the findings, and directly conveyed the views of the participants.

Ethical dimension of the research

Within the scope of the research, necessary permissions were obtained from both the ethics committee of Siirt University and the Ministry of National Education. In addition, verbal and written permissions were obtained from the principal of the school where the research was conducted and the teacher of the class in which the participant students were selected. In the last stage, the parents of the students in the action research group were informed in detail about the research and written approvals of both parents and students were obtained.

Role of the validity committee

The main purpose of the validity committee is to ensure that the research conducted has a systematic continuity. This committee also ensures the validity and reliability of the action research. The validity committee, which was formed both to add a systematic continuity to the research and to ensure the validity and reliability of the research from a critical perspective, consists of members who are experts in the field of basic education and computer technologies. The committee has three members. One of these members is an expert in the field of computer technologies. In addition to his studies on FL model, he also has a book chapter. Another committee member is an expert in basic education. The member has studies on life science education and social studies education. The third member of the committee was the researcher himself. The validity committee met regularly every week. The implementation at the school was carried out on Tuesday every week, and the validity committee met on the first Wednesday following the implementation. The researcher firstly analysed the video recordings of the lesson recorded during the implementation, the notes taken in the researcher's diary, student diaries and the outputs of the in-class and out-of-class activities. The researcher presented the data obtained as a result of all these analyses to the validity committee. The analyses made in the committee meetings were discussed and action plans for the following week were created. These action plans were also recorded in the committee decision book. Validity committees were recorded with a video camera. These recordings were then transcribed and analysed by the researcher and the findings were written in the committee record book. The first validity committee meeting was held on 10.03.2022 before the beginning of the field studies. The last validity committee meeting was held on 25.05.2022, which coincided with the week when the teaching practices ended. Ten committee meetings were held in total.

Preparation of videos

Teaching practices based on FL model were carried out within the scope of social studies course. In this direction, firstly, it was determined which learning areas the teaching practices would be based on. Accordingly, the learning areas of 'Active Citizenship' and 'Global Connections' at the 4th grade level in the 2018 Social Studies Curriculum were decided. Then, the stage of transforming the content of these learning areas into videos to be used in the virtual classroom environment was started. Within the scope of the FL model, the licence of the animated video preparation programme named VYOND was purchased in order to design the videos to be created for students to watch outside the classroom. All of the videos used during the teaching practices were created with this programme. The VYOND

programme enables the creation of animated videos based on ready-made templates created by the producer or templates to be created by users. A total of ten video animations with content from two different learning domains were created through the VYOND programme, which also allows adding audio and video to the animations. Some screen scenes of the created videos are given in Image 1 and the distribution of the videos according to the learning domains is given in Table 3.

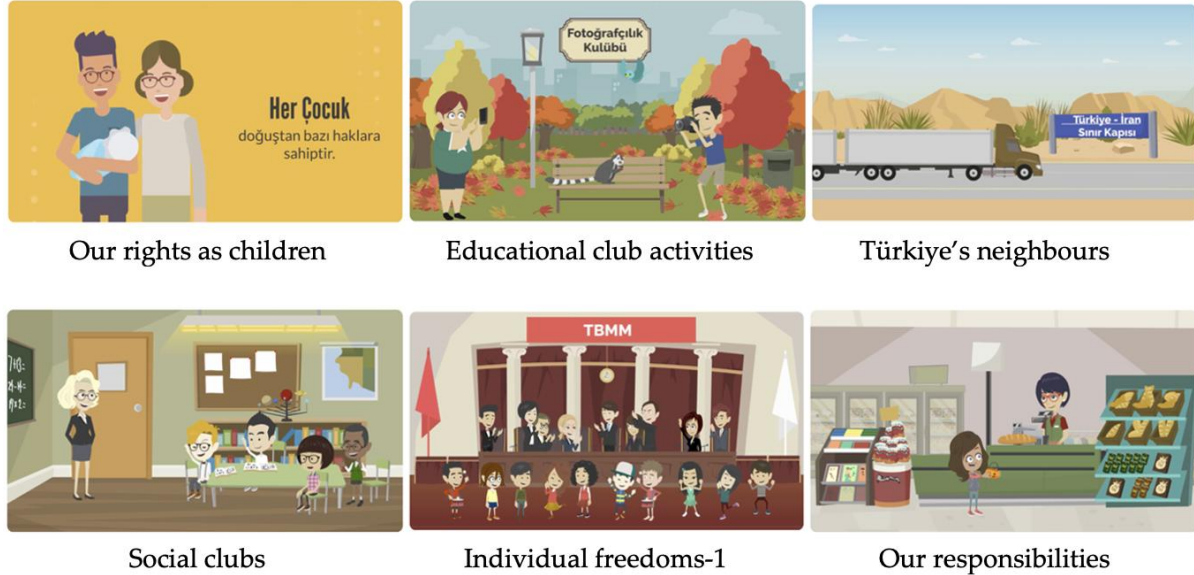


Image 1. Sample visuals of video animations

Table 3. Distribution of videos prepared in Vyond environment according to learning areas

Learning area	Name of the video	Duration of the video
Active	Our rights as children	07:40
Citizenship	Our responsibilities	04:33
	Educational club activities	04:35
	Social clubs	04:15
	Individual freedoms-1	04:02
	Individual freedoms-2	06:48
Global	Get to know the countries	07:00
Connections	Türkiye's neighbours	08:13
	Turkic republics	06:27
	Different countries different. cultures	09:45

Data collection

In this study, multiple data collection methods were used in accordance with the nature of action research (Mills, 2011). Research data were collected through semi-structured interviews with students, teachers and parents, student and researcher diaries, validity committee records, video recordings of in-class teaching activities, virtual classroom application records of out-of-class teaching activities, academic achievement tests related to learning areas and weekly subject tests. The data collection tools used in the research are shown in Table 4.

Table 4. Data collection tools used in the research

Researcher	Students	Teacher	Parents
Researcher diary (Qualitative)	Active citizenship achievement test (Qualitative)	Interview form (Qualitative)	Interview form (Qualitative)
Validity committee (Qualitative)	Global connections achievement test (Qualitative)		
	Student diary (Qualitative)		
	Online environment data (Qualitative)		
	Weekly subject tests (Qualitative)		
	Video recordings (Qualitative)		
	Interview form (Qualitative)		
	Activity sheets (Qualitative)		

Semi-structured interview: Semi-structured interview forms developed by the researcher were used to obtain the opinions of the students, the classroom teacher and the parents who participated in the research process. Care was taken to ensure that the questions used in the interviews reflect both the researcher's field observations and the implementation process of the FL model in the best way possible. In this context, the researcher first created forms consisting of different numbers of questions for the classroom teacher, participant students and parents. The forms were submitted to the validity committee and finalised after being discussed in the committee. The content of the interview form for the classroom teacher and participant students consisted of 7 questions, while the content of the interview form for the parents consisted of 6 questions.

The form prepared for the students consisted of questions prepared to determine the opinions of the students about the application process of the FL model and the reflection of the application on their course success and study habits. Semi-structured interviews were conducted with eight students during the research. In the interview with the classroom teacher, the teacher was asked questions prepared to determine the reflections of the FL model on the implementation process, students' academic achievement and study habits. In the interviews with the parents of the students, questions prepared to determine the opinions of the parents about the implementation process of the FL model and the activities carried out by the students outside the classroom were asked. A total of eight parents were interviewed, one parent representing each student participating in the research. All of the interviews were conducted in the classroom allocated for the research. The details of the interviews with the participants are shown in Table 5.

Table 5. Information on the interviews conducted with the participants

Participant type	Number of participants	Date of interview	Interview duration
Teacher	1	18-20 May 2022	58 minutes
Student	8	21 May 2022	88 minutes
Parent	8	22-23 May 2022	104 minutes

Student diaries: Two different media were used for student diaries. The first medium was the notebooks distributed to the students at the beginning of the implementation process. Students were asked to note down their thoughts about the activities they would carry out both inside and outside the classroom during the week in the notebooks distributed to them. After studying the homework content uploaded to the virtual classroom application and after the activities they carried out in the classroom, they were asked to note down their thoughts. While keeping a diary, it was stated that they should write the date they noted their thoughts at the top of the page. The comments written by the students on the chat flow screen of the virtual classroom application were also accepted as diary notes. The students were asked to be in constant communication with each other through the Google Classroom application

and to share their questions about the subjects they were studying or their positive or negative thoughts about the application process. These posts of the students were also taken into consideration as student diary notes.

Researcher diary: The researcher recorded her own experiences about the implementation process with a researcher diary. The researcher created this diary via computer environment. The researcher recorded her observations and opinions about in-class and out-of-class teaching activities and her evaluations about the meetings after the validity committees in her diary.

Validity committee data: During the validity committee meetings, the opinions and suggestions of the committee members regarding the activities were recorded with camera and voice recorders. These recordings were transcribed and used as data.

Video recordings: The in-class learning activities carried out by the researcher with the students were recorded by video. The video recordings were analysed after each implementation week, and the data obtained were presented at the validity committee meetings and provided ideas for action plans to be developed.

Teaching activity documents: The worksheets of the activities carried out by the students in the classroom and the learning products they produced were used as supporting data for the findings of the research.

Online environment data: In accordance with the nature of the FL model, out-of-class teaching activities constitute one dimension of the teaching activities. Google Classroom application was used to organise and follow the out-of-class teaching activities of the students. The studies carried out by the students on the virtual classroom created through this application, their correspondence with their other friends and the researcher, access to the teaching materials uploaded to the virtual classroom environment and information about their repetition status were recorded as online environment data. These records were analysed and used in the process of reporting the findings.

Achievement tests: The researcher developed achievement tests related to 'Active Citizenship' and 'Global Connections' learning domains in which FL model based teaching practice was carried out. This process was carried out in accordance with the test development stages. Accordingly; firstly, content validity was tried to be ensured. In this direction, the subjects and sub-subjects of the related learning areas were determined. For this purpose, the 2018 Social Studies Curriculum and the textbooks approved by the Ministry of National Education for use in primary schools were used. After determining the subject and sub-subjects, a question pool was created by taking Bloom's cognitive domain taxonomy into consideration. For each achievement test, 30-item draft forms were created. The draft forms were submitted to expert opinion. For each draft form, the opinions of a group of 10 experts were obtained. In the light of expert opinions, the Content Validity Ratio (CVR) value was calculated for each item based on Lawshe's content validity approach. The calculated value was compared with the Content Validity Index (CVI) constant (Adıgüzel, 2019). After the calculations and comparisons, it was determined that content validity was achieved for both achievement tests. Accordingly, it was decided that the active citizenship learning domain achievement test would consist of 30 items and the global connections learning domain achievement test would consist of 27 items. The items that were decided to be included in the achievement tests were evaluated in terms of spelling, form and expression deficiencies by taking expert feedback into consideration. In this process, the related deficiencies were eliminated and the validity study was completed.

For the reliability analyses of the achievement tests, a pilot study was conducted with a group of 65 students studying in the 4th grade of primary school. After the pilot study, item discrimination indices were first calculated within the scope of item analyses. For this process, the differences between the item score averages of the lower and upper 27% groups participating in the pilot study were tested using independent sample t-test (Adıgüzel, 2019). As a result of this process, it was tried to determine the items to be included in the test by checking whether the t value obtained depending on the Levene

value was negative / positive and whether $p < 0.05$ or $p > 0.05$. As a result of this process, it was decided to remove 1 item from the active citizenship learning domain achievement test and 2 items from the global connections learning domain achievement test. After the calculation of item discriminations, item difficulties were determined. After the calculations, the items with an item difficulty index below 0.19 were removed from the tests. Accordingly, it was decided to remove 1 item from the active citizenship learning domain achievement test and 2 items from the global connections learning domain achievement test from the tests. After the validity and reliability studies, it was decided that the active citizenship learning domain achievement test consisted of 28 items and the global connections achievement test consisted of 25 items. Finally, the internal consistency and reliability coefficients of the achievement tests were determined. According to the calculations, the Cronbach Alpha value of the achievement test of the active citizenship learning domain was 0.84 and the Spearman Brown reliability coefficient value was 0.78. The Cronbach Alpha value of the global connections learning domain achievement test was 0.88 and the Spearman Brown reliability coefficient value was 0.89. These results show that the developed achievement tests are valid and reliable measurement tools. The achievement tests developed were firstly used to determine the eight students included in the action research group. Then, they were used as pre-test and post-test to observe the academic achievement of the group in which FL model based teaching activities were carried out.

Weekly subject tests: Weekly subject tests were prepared by the researcher and uploaded to the virtual classroom weekly through the online environment. The content of the subject tests consisted of multiple-choice, fill-in-the-blank, open-ended and true-false questions related to the topic. With the weekly subject tests, it was aimed to monitor the weekly development processes of the students.

Implementation process

Details on the implementation process are described below.

Week 1 and 2: In the first week of the research, the school and the classroom where the implementation would be carried out were determined. In the second week of the research, the virtual classroom environment was introduced to the students in the action research group.

Week 3, 4, 5, 6, 7, 8 and 9: In the specified weeks, teaching practice based on the FL model was carried out. The process was continued by making changes in the action plans according to the data obtained and the decisions taken in the validity committee. The action research process carried out according to the FL model continued for a total of 21 lesson hours. The implementation process was completed after the implementation of all of the action plans developed.

Week 10: After the completion of the action research process, the application of achievement tests was carried out. In addition, interviews were conducted with the students included in the action research group, their parents and the classroom teacher. The steps related to the implementation process of the research are shown in Figure 3.

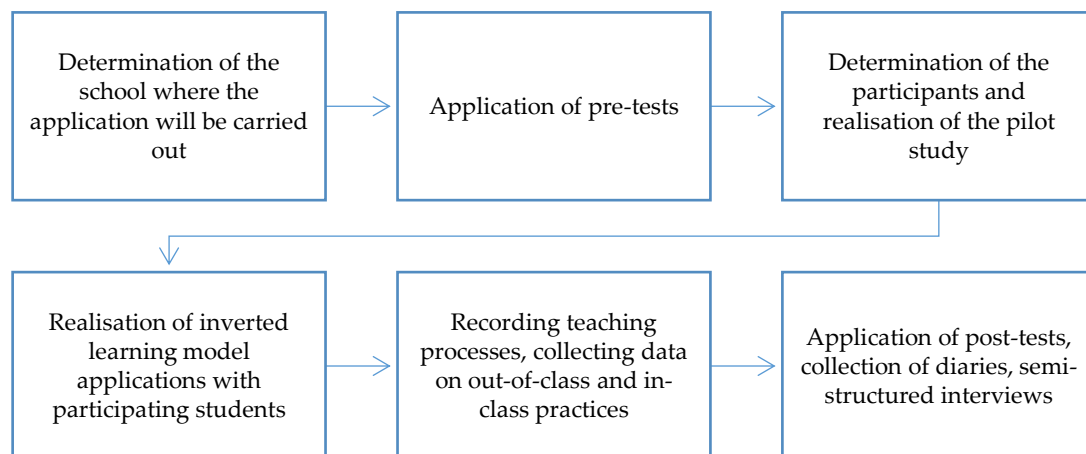


Figure 3. Implementation process of the research

Preparation of lesson plans

The researcher created the lesson plans that she would use during the action research process. The Social Studies course at the 4th grade level of primary school is implemented three hours a week. The researcher created 21 lesson plans for a total of seven weeks. Firstly, draft plans were prepared by the researcher for each lesson. The prepared plans were presented to the opinions of the validity committee members. The plans were finalised by considering the feedbacks. While creating the lesson plans, the features of the FL model were taken into consideration. The plans prepared accordingly were designed to organise in-class and out-of-class activities. It was taken into consideration that out-of-class teaching practices should be organised in such a way that students could work individually or in groups, and in-class teaching activities should be based on active participation. The lesson plans prepared have a quality that students will reinforce the knowledge they have acquired in the out-of-class environment.

Designing classroom learning activities

Within the scope of the research, 24 activities were designed for the in-class applications to be carried out. While developing learning experiences, attention was paid to some situations. Accordingly, care was taken to ensure that the teaching activities designed were of such a nature that students could participate in the process based on their own experiences, express their ideas by discussing with each other, and do both individually and as a group. The activities designed for the learning outcomes of Active Citizenship and Global Connections learning areas are shown in Table 6.

Table 6. Classroom teaching activities designed in the context of learning experiences

Learning area	Learning outcome	Teaching activity
Active Citizenship	Gives examples of his/her rights as a child.	My most important rights
		You have the right
		We promote children's rights
	Takes responsibility for his/her words and actions in family and school life.	Who is right?
		Assessing my responsibilities
		Where does it belong?
		Responsibility? Rights?
	Suggests educational and social activities deemed necessary in school life.	Establishing a club
		Completing the story
		My club
Global Connections	Explains the relationship between the independence of the country and individual freedom.	Club puzzle
		Letter to heroes
		We complete the poem of independence
		Crossword puzzle
		Let's make a law
		Our world is a jigsaw puzzle / What where?
		My dream country
		Brain box - World
		Türkiye jigsaw puzzle / Our neighbours
		Türkiye's neighbours country cards
	Understands Türkiye's relations with its neighbours and other Turkic Republics.	Turkic Republics country cards
		A guest from far away
	Compares the cultural elements of different cultures with the cultural elements of our country.	Tourism agency
		Which country does it belong to?
	Respects different cultures	

While designing the activities, the characteristics of the subject areas were taken into consideration. Each designed activity was discussed in the validity committee and renewed in line with the feedback of the committee members. 4. A section from the dialogue between the expert members

and the researcher regarding the gamification activity named 'we make laws' carried out in the classroom during the implementation week is as follows:

...

Researcher: I plan to create groups in the class to represent the legislative, executive and judiciary. For example, the legislative authority will put a bill on children's rights to a vote. The draft law will be voted in the parliament, maybe it will be discussed. The law adopted by the parliament will then be submitted to the president, who represents the executive branch. The president will examine the law and approve it.

Expert-1: So what will be the implementation at the judicial level?

Researcher: For example, the president can send the law to the parliament in the first stage. Then the parliament reviews and approves the law. Then it is sent to the president again. If the President does not approve this time, it can be taken to the judiciary. I can also add such a scenario.

Expert-2: There may be two different scenarios. The first scenario could be one in which the president approves the law. The second scenario could be one in which he does not approve it. He sends it to parliament again. If he refuses a second time, I think he can apply to the judiciary.

Researcher: The President accepts it for the second time, but takes it to the judiciary. It can happen.

...

In the teaching activities listed in Table 6, various teaching techniques that appeal to different learning styles and encourage students' active participation were applied. Brainstorming and story completion techniques were used to develop creative thinking skills. Cooperative learning techniques were used to increase group work and collaboration. Discussion and question-answer methods were used to help students internalise the concepts of rights and responsibilities. In addition, game-based learning techniques such as puzzle solving and jigsaw puzzles were utilised to support the development of cognitive skills. In some of the activities, drama and problem solving techniques were also used to develop students' problem solving skills.

In the teaching process based on the FL model, in-class and out-of-class practices were structured to complement each other. In the out-of-class teaching process, students worked with online materials, videos, texts and digital resources to discover the contents related to basic knowledge and concepts individually. In this process, students were expected to have the necessary prior knowledge for the next lesson and to come to the class ready for discussion. In addition, for some teaching activities, students were given questions or short tasks that would help them to construct their thoughts and they were enabled to be an active part of the learning process. In the classroom, students had the opportunity to apply, analyse and deepen the knowledge they acquired in the out-of-class learning process. For example, students were involved in group discussions and collaborative learning activities within the scope of the activity 'Introducing children's rights'; in the activity 'Let's make a law', students were involved in problem solving, critical thinking and generating creative ideas with the help of gamification. In the classroom practices, the researcher assumed a guiding role and encouraged students to share their views and learn from each other. In addition, cooperative learning techniques were used to increase the active participation of students through activities such as 'Establishing a club' and 'My dream country'.

In the course process, students were at the centre of the learning process and were positioned as active participants. Students individually assumed responsibilities for learning in the out-of-class process and acquired basic knowledge by analysing online contents, videos and other materials provided by the researcher. In the classroom, students used their prior knowledge and participated in activities aimed at developing high-level cognitive skills such as problem solving, collaboration, critical thinking and generating creative ideas. Especially during group work, discussions and creative activities, students experienced taking responsibility, expressing their ideas and learning in interaction with other students. In this process, the researcher selected and presented appropriate learning materials to support students' individual learning in the teaching process outside the classroom. In the classroom, he encouraged in-depth learning by guiding students' discussion, application and problem solving processes and guiding them with questions when necessary. In addition, he organised group activities that increased cooperation among students and encouraged the sharing of different opinions. The researcher provided feedback on the learning process throughout the teaching process. The role of the researcher in each teaching activity is shown in Table 7.

Table 7. The role of the researcher in classroom teaching activities

Subject	Activities	Role of the researcher
I'm a child, I have rights	My most important rights (1) You have the right (2) We promote children's rights (3)	(1) Organises small group discussions to ensure that students understand the concept of rights and guides them in structuring their ideas. (2) Supports students to analyse these situations and develop awareness about the use of rights by presenting sample situations from daily life. (3) Guides students to prepare creative posters or presentations by checking the accuracy of information and supporting the process with guiding questions.
I take responsibility	Who is right? (4) Assessing my responsibilities (5) Where does it belong? (6) Responsibility? Rights? (7)	(4) Creates a fair discussion environment. (5) Supports students to realise their own responsibilities. (6) Guides students to analyse responsibility statements. In this process, he/she asks guiding questions to determine whether the statements belong to social, family or personal life and manages the discussion environment by encouraging students to explain their thoughts. (7) Ensures that students categorise situations correctly.
I participate in educational and social activities	Establishing a club (8) Completing the story (9) My club (10) Club puzzle (11)	(8), (10) Supports students to organise their ideas and prepare presentations by working collaboratively. (9) Provides hints to stimulate students' imagination and guides the process. (11) Contributes to the learning process by guiding students to consolidate their knowledge.
Freedom and independence	Letter to heroes (12) We complete the poem of independence (13) Crossword puzzle (14) Let's make a law (15)	(12) Guide students to choose their heroes and structure their expressions when writing their letters. (13) Encourage students' poetic thinking and creative expression. (14) Structure the process in order to assess students' prior learning. (15) Organises students' drafting processes, guides their discussions and supports their problem-solving skills.

Table 7. Continued

Subject	Activities	Role of the researcher
Get to know the countries	Our world is a jigsaw puzzle / What where? (16) My dream country (17) Brain box - World (18)	(16) Guides students to learn the world map and encourages them to make correct matches during the puzzle process. (17) Takes on a facilitative role encouraging students to share their dreams and reasons for the country they would like to travel to. Asking guiding questions to support students' country choices. Allowing students to express their opinions and encouraging them to explain their reasons in more detail. (18) Reinforcing students' quick thinking and information recall skills through guiding questions.
Neighbours and Turkish Republics	Türkiye jigsaw puzzle / Our neighbours (19) Türkiye's neighbours country cards (20) Turkic Republics country cards (21)	(19) Helps students consolidate their geographical knowledge while placing the puzzle pieces. When necessary, asks guiding questions and provides feedback for correct placements. (20), (21) Allows students to get to know Turkey's neighbours through country cards. During the activity, the teacher encourages the students to correctly identify the countries based on the information on the card and provides guidance to complete the missing information.
Different countries, different cultures	A guest from far away (22) Tourism agency (23) Which country does it belong to? (24)	(22) Guides students to develop their ability to recognise and empathise with different cultures. (23) Helps students develop their creative thinking and planning skills by running a tourism agency. Ensures that they correctly introduce the touristic features of their chosen country and asks guiding questions to support their presentations. (24) Encourages students to identify countries based on the clues given. Checks the accuracy of the answers, guides the correction of missing or incorrect information and supports students to develop analytical thinking skills.

Analysing the data

The analysis of the data obtained in action research is carried out in a continuous manner (Johnson, 2014). Accordingly, data collection and analysis are carried out together in the action research process. Miles and Huberman (1984 as cited in Gürgür, 2017) defined this process as a systematic analytical analysis approach. In this study, the systematic analytical analysis process defined by Miles and Huberman was followed. In this process, the data related to each teaching week were collected, analysed and the action plan was updated in line with the findings obtained and the process was reapplied. In the first stage of the research, data on out-of-class teaching activities carried out through virtual classroom applications were analysed. These data consist of the outputs obtained from the virtual classroom application, chat screen recordings and materials based on various activities. Students' participation in activities through the virtual classroom application, their interaction processes in the chat system, their access to the content uploaded to the application and their weekly subject test scores were followed and analysed in detail. Data on in-class teaching activities were obtained through video recordings, worksheets and researcher diary. Worksheets and weekly subject test scores were used to monitor students' academic development processes. In addition, data on the functioning of the FL model were obtained through video recordings and the researcher's diary and the details of the process were analysed. All these procedures were carried out separately for each activity week and this process was followed systematically.

Within the scope of the research, the teaching activities carried out in the classroom were recorded with a video camera. These recordings were analysed in two different contexts. In the first context, video recordings of in-class activities each week were analysed at the macro level by the researcher. In this process, the focus was on understanding general patterns, processes and relationships without going into details in the video recordings. The findings obtained from the analysis were presented to the validity committee and discussed. The discussions helped the action cycle process to be carried out in a healthy way. In the second context, the analyses of the video recordings were used to support the findings of the semi-structured interviews and the views of the researcher.

The semi-structured interviews were recorded with a video camera and then transcribed into a written text by the researcher. In the analysis of these data, the qualitative data analysis steps defined by Miles and Huberman (2015) were followed. These steps include the stages of data reduction, data representation, and presentation and verification of results (Miles & Huberman, 2015). In this context, firstly, the data were carefully analysed and the focus was on identifying general themes and patterns. Then, a theoretical framework was created in the light of the literature, and coding and categorisation were made in accordance with this framework. In this process, the frequencies, contexts and relationships of the themes were analysed in order to narrow the scope of the data and transform them into a meaningful structure. In the next stage, the connections between the main themes and sub-themes were revealed. These connections were supported by in-depth analysis of the implicit meanings in the qualitative data. The findings obtained during the analysis process were organised in a way to both answer the basic questions of the research and contribute to the literature. Content analysis was used in the qualitative data analysis process. Content analysis is a data analysis technique carried out according to the stages of coding the data, finding themes, organising codes and themes and defining the findings in order to reach concepts and relationships that can explain the collected data (Yıldırım & Şimşek, 2016). In this process, the coding process was carried out on the transcribed interview records. Firstly, the interview data were read in detail through open coding and important expressions, words or sentences were selected and coded. Then, the codes that were thought to be similar or related were grouped and themes were formed. The themes, relationships and categories obtained were tabulated using diagrams. The themes and categories obtained were interpreted in accordance with the research questions and purpose. Meaningful conclusions were reached by considering the content and context of the data. Diaries and field notes kept by the researcher and students were used to support the data obtained from the interviews.

Quantitative data were also obtained within the scope of the research. Within the scope of the research, academic achievement tests developed by the researcher were applied to determine the participant students. The average scores of the students obtained from the academic achievement tests were analysed using SPSS 22 (Statistical Package for the Social Sciences). At the end of the action research process based on the FL model, achievement tests were used to determine the academic development status of the students. In order to determine the statistical change in the level of academic achievement at the end of the process, firstly, it was decided which test type would be used. In the analysis of the data, the necessary conditions for the application of parametric or non-parametric tests were tested. For this, normality test was applied with the help of SPSS. Since the number of participants to whom each achievement test was applied was less than 50, the results of the Shapiro-Wilk test were examined as the normality test value (Mayers, 2013). As a result of the analyses performed, the p value of the Shapiro-Wilk normality test results of the pre-test and post-test scores of the academic achievement tests was significant ($p < 0.05$). However, Skewness and Kurtosis values of the tests gave results outside the acceptable range (-1, +1) for parametric tests (Hair et al., 2013). Based on all these data, it was decided to use non-parametric tests in the analysis of quantitative data. Accordingly, Mann-Whitney U test was used to analyse the data related to independent/non-independent samples and Wilcoxon test was used to analyse the data related to dependent/related samples (Büyüköztürk, 2013). In order to evaluate whether the test results obtained here are significant in theory and practice, the effect size was calculated using Cohen (d) value. Another quantitative data collection tool developed

for the students was subject tests. Average scores were used to analyse the data obtained from these tests and the data obtained were presented graphically.

Credibility

In order to ensure the credibility of the research, credibility, transferability, invariance and confirmability strategies were used in the research process (Guba & Lincoln, 1989, cited in Güler et al., 2013). In qualitative research, credibility means that the collected data create a picture of a small observed reality with all its clarity (Johnson, 2014). In addition, credibility is related to whether the findings of the research are meaningful, whether the research is meaningful for people and readers, and the originality of the subject being researched (Miles & Huberman, 2015). The researcher stayed in the field for a total of 10 weeks in the second semester of the 2021-2022 academic year in order to increase credibility. Many data collection tools were used in the research. Data triangulation was made thanks to the different data collection tools used. In this context, qualitative data collection tools such as observation, diary, video recording and interview were used. The researcher collected data at different times throughout the research process. Weekly subject tests were used to determine the change in students' academic achievement levels. In addition, academic achievement tests were applied at the beginning and end of the study. At the end of the implementation process, the researcher conducted interviews with students, class teachers and parents. The researcher also watched the weekly video recordings and took notes of the dialogues between the students. Observation notes were kept regularly by the researcher on each implementation day. In addition, the lessons were recorded with a video camera. In addition, the data belonging to the virtual classroom environment in which the out-of-class practices took place were recorded via Google Classroom application. Where necessary, screenshots of the virtual classroom application and camera recordings of in-class applications were shared to increase the credibility of the research. In order to increase the credibility of the research, how the lessons were taught, how the Google Classroom application was used, which activities were carried out through this application, data collection processes, participants and roles of the researcher were explained in detail. In addition, the steps related to data analyses were specified in detail. In order to increase the credibility of the research, colleague and participant confirmation was obtained from the validity committee members, thesis monitoring committee members and the classroom teacher throughout the research process.

In qualitative research, the concept of transferability is used instead of generalisation. The transferability of a qualitative research result is related to the detailed explanation of the research process in all its details. This narrative is directly related to the transfer of rich, detailed and accurate information obtained as a result of observation of the research environment, participants and the research process (Güler et al., 2013). In this context, the researcher described in detail the school where the research was conducted, the research environment, the participants of the research, data collection techniques and tools, data analysis methods and how the application was carried out in order to ensure transferability. The researcher tried to reflect his/her descriptions as objectively as possible. The findings obtained as a result of the collected data were presented by comparing them with the findings in the literature. The stages of data collection and data analysis were reflected in detail by the researcher.

In qualitative research, the concept of consistency is used in the sense of reliability or being worthy of being reliable. According to Guba (1981 as cited in Mills, 2003), in order for the research to be worthy of being reliable, the data should be consistent with each other. In order for the data to be consistent or reliable, data collection methods should be diversified or people or persons other than the researcher who provide data control should be included in the process. The researcher organised validity committee meetings every week throughout the process to ensure that the research was worthy of being reliable. At each stage of the process, the data obtained from the macro analyses of the video recordings were presented to the members of the validity committee and action plans were created together with the committee members. The researcher presented the data obtained during the implementation process to the thesis monitoring committee and obtained the approval of the members of the committee. The researcher paid attention to present the data obtained from different data

collection tools in a consistent manner to support each other. The video and audio recordings obtained within the scope of the research were transcribed by the researcher. A certain part of these recordings was checked by another expert. An expert other than the researcher was involved in the scoring of the weekly subject test and academic achievement test forms of the participant students. A certain part of the forms was also scored by this expert. In this way, it was ensured that the scores obtained from the forms were reliable.

In qualitative research, the concept of confirmability is used in contrast to the concept of objectivity used in quantitative research. Confirmability means that the results reached through confirmability are continuously confirmed with the collected data and a logical framework is presented to the reader (Yıldırım & Şimşek, 2016). The researcher used qualitative and quantitative data collection tools together in the research process in order to ensure the confirmability of the research. Achievement tests and weekly subject tests, which are quantitative data collection tools, were used to reveal how students' academic development changed. In addition, observation notes, diaries, video recordings and interviews were used as qualitative data collection tools. In this way, it was ensured that the results supported each other. The results of macro-analyses of the video recordings of in-class teaching practices and the records of the virtual classroom environment were shared with the members of the validity committee. The outputs of the activities carried out by the students and their academic achievement scores were also presented to the committee members. These data made a great contribution to the preparation of action plans.

Findings

The findings of the research are presented under four headings. In the first stage, the findings related to the execution of the activities based on the FL model, which formed the basis of the implementation process of the research, were included. In the second stage, the academic development status of the students was mentioned. In the third stage, the problems encountered during the implementation of the FL model and the solution suggestions for these problems were mentioned. In the fourth stage, the opinions of students, teachers and parents regarding the FL model implementation were included.

Carrying out teaching activities according to inverted learning model

The implementation of the FL model in the social studies course was carried out as shown in Figure 4.

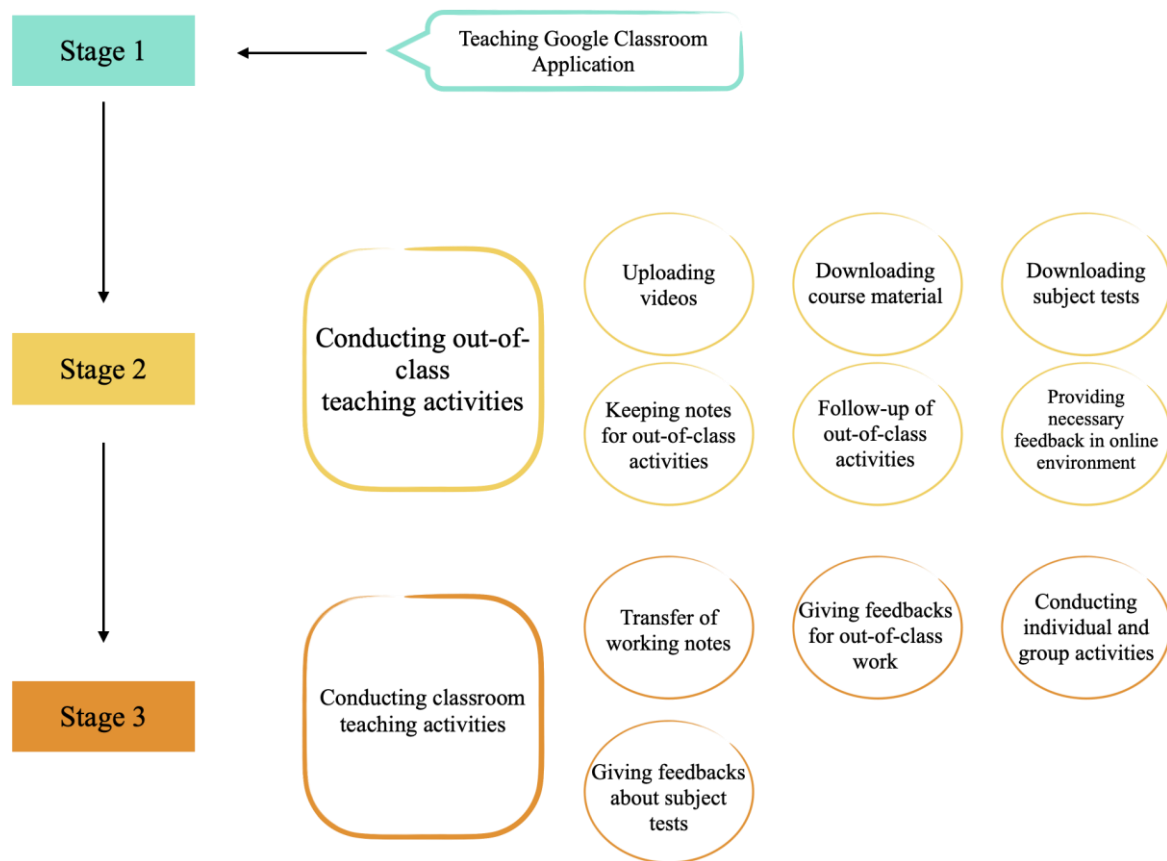


Figure 4. Implementation process of FL model in primary school 4th grade social studies course

In the light of the findings obtained in the research, it was determined that the FL model was realised in 3 stages. Accordingly, the first stage is the determination of the virtual classroom environment to be used to carry out the FL model's out-of-class teaching activities and introducing it to the students. The critical point at this stage is to ensure that the students reach the competence to use the virtual classroom application independently. Accordingly, just before the FL model is started to be used as a teaching method, students should have sufficient experience with the application that is decided to be used as a virtual classroom. In addition, care should be taken to ensure that the virtual classroom application is easy for students to use. Therefore, it was decided to use the Google Classroom application since its interface is Turkish.

The activity process was planned for the introduction of the Google Classroom application and students were brought together to convey the necessary information. The introduction of the Google Classroom application took place in five stages. In the first stage, students were told how to log in to the application. In the second stage, they were shown how to participate in the virtual classroom created by the researcher. In the third stage, it was explained how to access the course content uploaded to the virtual classroom. In the fourth stage, the chat flow screen of the virtual classroom application was introduced. In the fifth stage, it was tried to evaluate their comprehension of the use of the system through a sample lesson video and subject test uploaded to the virtual classroom application. After the researcher observed that the students were able to use the virtual classroom application independently, it was decided to carry out teaching activities based on the FL model with the decision taken at the validity committee meeting.

The second stage of teaching activities based on the FL model is the execution of out-of-class teaching activities. At the end of the action research process, it was determined that out-of-class teaching activities should proceed in certain steps. Accordingly, the process starts with the uploading of the video and other course materials related to the subject to be studied by the student to the virtual classroom environment. Then, the test of the subject to be studied should be uploaded to the virtual classroom environment. Students are expected to take notes about the studies they carry out individually outside the classroom. The teacher should follow the work carried out by the students outside the classroom and provide online feedback.

In the study, firstly, the details regarding the use of the virtual classroom application were determined. The in-class teaching activities to be carried out with the student in the action research group were carried out every week on Tuesday. Accordingly, the video content, other course materials and weekly subject tests of the subject that the students were expected to study were uploaded to the virtual classroom environment on Wednesday of the previous week. The aim here is to give students enough time to prepare before in-class activities. A part of the dialogue between the expert members of the validity committee and the researcher about this process is as follows:

...

Researcher: I plan to do the in-class teaching application on Tuesday every week. I plan to upload the course content, especially videos and subject tests, which I will upload to the virtual classroom environment, to the system every Friday after the school exit time of the students. I have an idea like 18:00. Thus, at the end of the week, they will have time to watch the videos and solve the subject tests

Expertise-1: In my opinion, the earlier we upload the teaching content to the virtual classroom application, the more flexibility we give to the students. Therefore, if you are going to teach the lesson in the classroom on Tuesday, you can upload the content of the lesson until Wednesday at the latest. That way they'll have almost a week's time.

Researcher: My concern is that the longer the interval, the more likely it is that the students will forget what they have watched. So I was thinking of keeping the time short

Expertise-1: We are conducting an action research. Our aim is to revise our action plans until the healthiest conditions are in place. So we'd better see what the consequences of each situation are. I'm in favour of uploading the content on Wednesday in the first instance.

Expertise-2: I agree. They get out of class on Tuesday. They spend that day filling in their diaries. One day later, they start preparing for the next lesson. I am also in favour of uploading the videos on Wednesday

Researcher: OK then. I'm taking notes for Wednesday 18:00 as the day the content will be uploaded to the virtual classroom.

...

During the execution of out-of-class teaching activities, some situations requiring intervention emerged. These situations were eliminated thanks to the decisions taken at the validity committee meetings and the action plans developed by the researcher. In the first of the situations requiring intervention, it was observed that there were students who did not follow the assignments uploaded to the virtual classroom environment or followed them late. The researcher determined that there were different reasons for this situation in the interviews with the students. Accordingly, it was determined that some students had problems accessing the internet, some students did not click on the homework submission button although they accessed the teaching content uploaded to the virtual classroom environment, and some students could not use their computers due to some reasons at home. Carrying the data obtained as a result of the interviews with the students to the validity committee the researcher developed new action plans in the light of the feedback received from the experts and tried to eliminate the situations requiring intervention.

Another situation that requires intervention in the process of conducting out-of-class teaching activities is related to the assignment submission screen. Accordingly, it is not known whether the students have worked on the content uploaded to the virtual classroom environment. Students are expected to give feedback with the 'submit' button after working on the content uploaded to the virtual classroom environment. However, this feedback does not provide healthy information about whether the uploaded content has been studied or not. In order to overcome this situation, the researcher asked the students to take notes about the teaching activities they carried out outside the classroom. It was decided that the students would share the notes they took with the class just before the in-class teaching activities started.

There were also different situations that emerged during the process of out-of-class teaching activities and required intervention. These situations can be expressed as; the frequency of repeating the teaching content uploaded to the virtual classroom environment is low, the virtual classroom chat flow screen is not used sufficiently for communication purposes, and the need to give feedback on students' learning deficiencies arises. The decisions taken and implemented in the validity committee in order to overcome the problems that emerged are shown in Table 8.

Table 8. Decisions taken to overcome the problems encountered in out-of-class teaching activities

Meeting Number	Meeting Date	Decisions Taken
4	30.03.2022	Discussing with families about the use of technological devices that will enable students to access the virtual classroom environment. Discussing with families about students' easy access to the internet outside the classroom. Subject tests are uploaded to the virtual classroom environment every Friday. Monitoring the out-of-class work of the students through the virtual classroom. Communicating with students through the virtual classroom environment. Asking students to take notes about out-of-class teaching practices. Adding warnings to the prepared subject videos reminding students to increase the number of repetitions of their out-of-class work. Adding warnings to the prepared subject videos reminding students to take notes on their out-of-class work.
5	07.04.2022	Ensuring that the chat flow screen of the virtual classroom application is used more effectively by the students. Continuing the practice of uploading the subject content prepared for out-of-class studies to the virtual classroom application every week on Wednesday and the subject test every week on Friday.
6	20.04.2022	Continuing to provide the necessary guidance for students to use the virtual classroom application chat flow screen more effectively.
8	04.05.2022	Discourage the organisation of out-of-class learning implementations in such a way that students can work in groups.

The third stage of teaching activities based on the FL model is the execution of in-class teaching activities. At the end of the action research process, it was determined that in-class teaching activities should be carried out by transferring the study notes kept by the students, giving the necessary feedback for out-of-class work, conducting individual and group activities and giving feedback on subject tests.

Firstly, the details of how the teaching activities will be carried out in the classroom were determined. In line with the decision of the validity committee, it was determined how the activities would be carried out before the first week of the in-class teaching practices. Accordingly, it was decided to carry out the activities individually or in groups in the classroom environment, to give feedback to the students in the introduction part of the lesson, to carry out activities to reinforce the out-of-class

teaching practices and finally to inform the students about the activities to be carried out in the following week.

In the process of implementing in-class teaching activities, just like in the process of implementing out-of-class teaching activities, some situations that needed to be intervened emerged. Especially in the first week of implementation, it was observed that some students did not access the instructional content uploaded to the virtual classroom environment for different reasons, so these students behaved passively in classroom teaching activities. In order to overcome this situation, it was decided to supervise the students through the virtual classroom application and to keep notes for out-of-class teaching activities. Following the in-class teaching activity in the first week, a section from the dialogue between the researcher and the committee members regarding this situation that emerged and required intervention is as follows:

...

Researcher: *I cannot determine whether they have worked on the homework content that I uploaded to the virtual classroom environment. As soon as they press the 'I completed the homework' button, it seems that they have worked on the content, but this is not a very healthy tracking method. We need a method to track out-of-class work*

Expertise-2: *They can take notes. We can ask them to take notes about their work. So that we can monitor what they are working on.*

Expertise-1: *Let them take notes. You remind them to take notes. Thus, they come taking notes. You briefly mention these notes in the introduction part of the lesson. They will also get feedback. We will follow them.*

...

At the committee meeting, it was brought to the agenda at which stage of the activities to be carried out in the classroom environment the feedbacks related to the subject tests uploaded to the virtual classroom environment would be given. The researcher observed that some students did not achieve the desired level of success in the subject test. The committee members stated that the main reason for this situation may be that the course content uploaded to the virtual classroom environment was not repeated sufficiently. In the committee meeting, some decisions were taken to take the necessary steps for students to frequently repeat the teaching content uploaded to the virtual classroom environment. It was also emphasised that feedback on subject tests should be given during in-class teaching activities. The researcher and the committee members agreed that the feedback on the subject tests should be given in the last part of the lesson after the in-class activities were completed. The decisions taken and implemented in the validity committee for different situations that emerged during the process of classroom teaching activities and required intervention are shown in Table 9.

Table 9. Decisions taken in order to eliminate the problems encountered in classroom teaching activities

Meeting Number	Meeting Date	Decisions Taken
4	30.03.2022	Giving feedback on the subject tests uploaded to the virtual classroom environment in the classroom environment and in the last part of the lesson. Taking a short break in the lesson in order to eliminate possible distractions during the lesson. Asking students to share the notes they kept for their out-of-class work at the introduction stage of the lesson.

After the completion of the action research process, it was determined in detail how the in-class and out-of-class teaching processes of the FL model should be carried out within the scope of the primary school social studies course. In order to explain the first sub-objective of the study and to visualise the teaching process based on the FL model concretely in the minds of the readers, the teaching activities carried out during an implementation week are explained in detail below.

Week 7 Implementation Process with FL Model

Learning outcome: Compares the cultural elements of different cultures with the cultural elements of our country.

Detail of the process: This week, in accordance with the FL model, both out-of-class and in-class activities aimed to help students understand and compare cultural differences. Out-of-class and in-class activities were carried out as follows:

Out-of-class activities

Content presentation with animated video: An animated video titled 'Different Countries, Different Cultures' was presented to the students. This video provides basic information by comparing the cultural elements of Japan and other countries with the cultural characteristics of Türkiye. In the video, elements such as the language, capital, festivals, traditions and culinary culture of Japan are discussed in detail.

Use of additional materials: Flashcards introducing the cultural characteristics of different countries were uploaded to the Google Classroom platform. These flashcards contain information about each country, such as its language, geographical location, tourist attractions, festivals and culinary culture. Students learnt general information about different countries by studying these materials.

Subject Test: After analysing the videos and flashcards, students completed a subject test presented via Google Classroom. The questions in the test helped the students to reinforce what they have learnt and to measure their knowledge. The solutions of the test were discussed for feedback and reinforcement after the in-class activities were completed.

In-class implementation process

1. Activity: A guest from far away

Purpose: To develop students' empathy, group work and creative drama skills by comparing Japanese culture with Turkish culture.

Process: The class was divided into groups of 4 students. In each group, one student played the role of a Japanese child and the other student played the role of a Turkish child. Roles such as family elders and friends of the children were also shared by the groups. The groups shared with each other the research they had done about Japan outside the classroom. Then, a day when the Japanese child was a guest in Türkiye within the scope of 23 April activities was enacted with the creative drama method. In this process, the cultural characteristics of Japan (language, holidays, traditions) and the hospitality culture of Türkiye were emphasised.

Expected learning outcomes: Students realise the cultural characteristics of Japan and Türkiye. Developing cooperation, empathy and creative thinking skills.

2. Activity: Tourism agency

Purpose: To develop creative thinking, planning and presentation skills; to be able to compare the cultural differences between the selected country and Türkiye.

Process: Each student prepared a brochure about a country of his/her choice outside the classroom. The brochure included details such as the language, tourist attractions, festivals and culinary culture of the selected country. In the classroom, each student assumed the role of a person running a tourism agency and presented the brochure to his/her friends. Other students played the role of tourists and asked questions to the agency operator about that country and received detailed information. In this process, the prepared brochure was supported with visuals and students were encouraged to demonstrate their creative presentation skills.

Expected learning outcomes: Improving students' skills in collecting, analysing and presenting information. Better understanding and interpretation of cultural differences.

Evaluation

Out-of-class activities: Students' researches, brochure designs and subject test results were evaluated.

In-class activities: Group work and individual presentations are graded on the basis of co-operation, creativity and presentation skills.

The effect of FL model based teaching practices on students' academic achievement

Based on the FL model, achievement tests developed by the researcher and weekly subject test scores were used to determine the development in the academic achievement of the students. At the beginning and end of the action research process, the Active Citizenship Achievement Test developed by the researcher was applied to the students. The Wilcoxon test results revealing the relationship between the pre-test and post-test scores of the Active Citizenship Achievement Test are shown in Table 10.

Table 10. Wilcoxon test results for active citizenship achievement test pre-test-post-test scores

Posttest-pretest	n	Rank mean	Row total	z	p	d
Negative sequence	0	.00	.00	2,524*	.012	0,8186
Positive sequence	8	4,50	36,00			
Equal	0	-	-			

* Based on negative sequences

According to Table 10, there was a significant difference in favour of the post-test between the pre-test and post-test scores obtained from the active citizenship achievement test by the eight students who were included in the action research group and who received education based on the FL model ($z=2.524$, $p<0.05$). When the rank means and rank sums of the difference scores are taken into consideration, it is understood that this difference is in favour of positive ranks, that is, the post-test score. Since the calculated Cohen (d) effect size value was greater than .8 ($d=0.8186$), this significant difference was found to cause a large effect size. Accordingly, the academic achievement levels of the eight students in the action research group in the active citizenship learning domain increased based on the FL model. In other words, it can be said that the action plans realised during the action research process were effective on the development of students' academic achievement.

Another quantitative measurement tool of the research is the Global Connections Achievement Test developed by the researcher. The Wilcoxon test results revealing the relationship between the global connections achievement test pre-test and post-test scores of the action research group are shown in Table 11.

Table 11. Wilcoxon test results for global connections achievement test pre-test-post-test scores

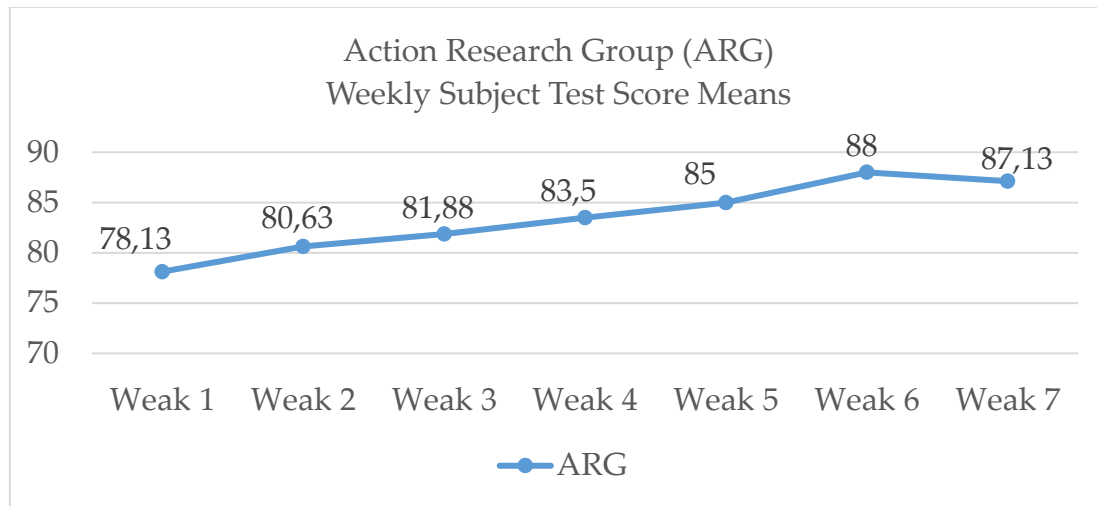
Posttest-pretest	n	Rank mean	Row total	z	p	d
Negative sequence	0	.00	.00	2,527*	.012	0,6785
Positive sequence	8	4,50	36,00			
Equal	0	-	-			

* Based on negative sequences

According to Table 11, there was a significant difference in favour of the post-test between the pre-test and post-test scores obtained from the global connections achievement test by eight students who were included in the action research group and studied based on the FL model ($z=2.527$, $p<0.05$). When the rank means and rank sums of the difference scores are taken into consideration, it is understood that this difference is in favour of positive ranks, that is, the post-test score. Since the calculated Cohen (d) effect size value was between .5 and .8 ($d=0.6785$), this significant difference was

found to cause a medium effect size. Accordingly, the academic achievement levels of the eight students in the action research group in the global connections learning domain increased based on the FL model. In other words, it can be said that the action plans realised during the action research process were effective on the development of students' academic achievement.

During the seven-week implementation process, the students in the action research group were given tests related to the topic discussed that week. In this way, data showing the development of the students' knowledge levels on the subject addressed each week were obtained. The subject tests were applied to eight students in the action research group through the virtual classroom application. Graph 1 shows the weekly development comparison of the mean scores obtained by the action research group from these tests.



Graph 1. Development of weekly subject test mean scores of the action research group

When the graph is analysed, it is seen that the mean subject test scores of the students in the action research group have shown an upward trend since the first week of the research process. Accordingly, the mean weekly subject test scores of the eight students in the action research group were 78.13, 80.63, 81.88, 83.50, 85.00, 88.00 and 87.13, respectively. While the lowest mean score of the action research group in the weekly subject tests was 78.13, the highest mean score was calculated as 88.00. In addition, the mean weekly subject test scores of the students in the action research group were in an upward trend from week 1 to week 7. Only the subject test mean score of the last implementation week showed a slight decrease. According to these data, it can be said that the weekly development of the subject test mean scores of the action research group has a consistent structure. Based on the students' academic achievement test pre-test - post-test score comparisons and weekly subject test score averages, it can be said that the teaching activities based on the FL model provided a positive development on students' academic achievement.

In face-to-face interviews with the classroom teacher, the researcher obtained data supporting the findings stated above. The classroom teacher emphasised that the students who were educated based on the FL model achieved more successful results than the rest of the class in the year-end exams she conducted in the context of the Social Studies course. A part of the conversation between the researcher and the classroom teacher on this subject is as follows:

...

Researcher: *What would you like to say when you compare the success of the students who are educated according to the FL model in the social studies course with other students?*

Teacher: *I'd say they're doing better now. The students who work with you have better grades.*

Researcher: *Do you have any data on this or are you reporting your observations?*

Teacher: *Let's see, for example (he analyses the scores of his written exam). Especially Mehmet, Ferit and Kadri got 100 marks. Merve and Fatma got 95. Rabia got 85. Ayşe got 80. Zafer got 70. For example, the closest of the rest of the students has 80 points. These were low achievers compared to the rest of the class. Now they are more successful than the other students.*

...

Problems encountered in the teaching process based on FL model and solutions

The problems encountered during the teaching activities based on the FL model were evaluated in four different dimensions. These dimensions are named as student-related problems and solutions, family-related problems and solutions, technological equipment and internet-related problems and solutions, and virtual classroom application-related problems and solutions. The identified problems and solution suggestions for these problems are presented in Table 12.

Table 12. Problems encountered in the implementation of the FL model and solutions

Source of the problem	Nature of the problem	Solution to the problem
Student	Not repeating the content	Uploading the course contents to the virtual classroom application at different times. Adding reminders to video lecture contents
	Inability to focus on the lesson	Breathing exercises for 15-20 seconds
	Not taking notes	Making reminders via virtual classroom. Adding reminders to video lecture contents
	Low internet usage skills	Providing basic internet training
Family	Not providing a working environment	Conducting interviews with families
Technological equipment and internet	Lack of tools and equipment	Providing computer and tablet support to students
	Inability to access the Internet	Providing home and mobile internet access to students
Virtual classroom app	Failure to follow the student	Ensuring that notes are kept about out-of-class activities

In accordance with the nature of action research, the researcher tried to overcome these problems that emerged during the process with the action plans he prepared. Under this heading, the problems that emerged during the research and the solution suggestions developed to overcome these problems are presented. The views presented were supported by quotations from the researcher and student diaries and validity committee meeting decisions.

Problems arising from students and their solutions: Based on the video recordings of in-class activities, homework submission screen records of the virtual classroom application and researcher diary data, it was determined that problems arising from the students were encountered during the execution of the activities during the research process. One of these problems is *the lack of sufficient number of repetitions in out-of-class activities*. Accordingly, the researcher determined that some students did not repeat the study content sent via the virtual classroom application sufficiently during the

realisation of in-class activity activities. The researcher based his views in this direction on the fact that some students did not submit their homework through the virtual classroom application and some students did not participate in the teaching activities organised in the classroom. In addition, the low weekly subject test scores of the students who did not submit homework or did it late strengthened the researcher's views in this direction. In the light of the data, it was understood that there were two main reasons for this finding. The first of these is that the students could not fully adapt to the out-of-class application process because it was the first application week. Students are expected to come to the classroom prepared for the content uploaded to the virtual classroom environment. Since the FL model is inherently different from the usual teaching practices, it may not be easy for students to get used to this situation at first. Reminding efforts may be necessary for students to fulfil what is expected of them regarding out-of-class activities. Another reason is that the teaching content uploaded to the virtual classroom environment was presented together at one time. This situation caused the students to be alone with an intense subject content at once. The researcher also obtained data supporting this idea in the in-class conversations with the students. After the interviews with the students and the decisions taken in the validity committee, the researcher wrote the following in her diary:

Some students' attendance is lower than others. In my conversations with students, I have identified different reasons for this. ...not repeating the assignment content sufficiently seems to be the most important reason. The intensity of the assignments uploaded to the virtual classroom environment may be another reason. For this reason, instead of uploading all the homework content to the system at once, we decided to upload the subject tests to the system at intervals of a few days. We also decided to add warnings to the introductory sections of the videos. We also decided to follow up more closely through the virtual classroom application and provide the necessary feedback through the chat flow screen of the application.

To overcome this problem, the researcher started to upload the homework content on Wednesday and the subject tests on Friday each week. The aim here is to enable students to repeat the subject content uploaded to the virtual classroom environment before solving the subject test. In addition, he added warnings to the content of the animated videos he prepared, reminding the students to repeat the work continuously. The researcher, who increased the follow-up of the students through the virtual classroom application, started to use the chat flow screen of the application for reminders in this direction.

After the action plans developed by the researcher, the number of repetitions of the videos uploaded to the virtual classroom environment increased. An excerpt from the conversation between the researcher and the students on this subject is as follows:

...

Researcher: *Do you think you've watched enough of the video?*

Merve: *I watched the video, teacher. Maybe I watched it ten times.*

Kadri: *I watched it too.*

Researcher: *Did it help to add reminders to the videos?*

Kadri: *Yes teacher.*

Researcher: *So, did it help to upload videos and the subject test on different days?*

Kadri: *Yes, it helped.*

Researcher: *How did it help?*

Kadri: *I mean, I Watched it again. I watched it again before i took the test.*

...

After the measures taken by the researcher, it was observed that the number of repetitions of the students in out-of-class studies and accordingly their class participation increased. In this way, a solution was found to the problem of students not doing enough repetitions for the content they were asked to study outside the classroom.

It was observed that the inability of some students to focus on the lesson was another problem experienced by the students. The researcher determined that some students were distracted during the realisation of in-class teaching activities. The researcher discussed this issue with the members of the validity committee. In line with the suggestions received from the members of the validity committee, the researcher decided to interrupt the activities for a short time when faced with a similar situation and to carry out studies to regain the attention of the students. For this purpose, it was suggested that it would be helpful for all students to do breathing exercises for 15-20 seconds in the presence of a teacher to eliminate distraction. In the later stages of the research, it was observed that students experienced less problems such as distraction and focusing on the lesson.

Another problem arising from the students is that they do not take notes for out-of-class activities. The researcher, who found that the virtual classroom application did not provide conclusive evidence of whether the students studied the uploaded content or not, decided that the students should come to the class by taking notes on the out-of-class work they had done on the topic to be covered that week. Despite this decision, the researcher observed that some students did not take notes about the work they carried out outside the classroom. After the validity committee meeting, in order to overcome this problem, it was decided to take notes on the out-of-class teaching practices of the students. For this purpose, reminders were added to the content of the animated videos to remind students to take notes. In addition, similar reminders were made through the virtual classroom application. After these measures, it was observed that the students gained the habit of taking notes. Thus, a solution was provided to the problem of students not taking notes for their out-of-class work.

The low level of internet usage skills is another problem whose source is the students. At the beginning of the study, the researcher observed that some students had inadequate internet usage skills. Internet usage skill is a prerequisite skill in all stages of the research. For this reason, this deficiency was seen as a problem and some studies were carried out by the researcher to overcome this problem. The researcher conducted a training on 21 and 23 March 2022 with eight students included in the action research group to develop basic internet usage skills. After the study, the researcher observed that the students made progress in using the Internet at a basic level. After this application, the problem that the students had about the ability to use the internet was eliminated.

Problems arising from families and their solutions: Another problem encountered during the research process was the problems arising from the families. The researcher observed that some families could not create an environment that would enable students to access the Internet with devices such as tablets, phones and computers (Table 2). Accordingly, only 2 families had access to computers/tablets at the beginning of the research. 6 families have internet/mobile internet access at home. The researcher provided laptop/tablet computers to 6 students. In this way, the technological impossibilities in front of the students to follow the virtual classroom application were eliminated. One of the 2 families, who did not have internet access at home, connected home internet in a short time, while the other family provided mobile data for the student to use on the tablet. In the last stage, 4 of the students had a computer and 4 had a tablet computer. 4 students accessed the internet via mobile data, while the remaining 4 students used home internet. In order to avoid internet access problems in this process, mobile data packages were defined for 2 of the students who will connect to the internet via mobile devices with the permission of their families. In the first week of the implementation, some students could not access the homework content sent to them via the virtual classroom application. The reason for this situation is that other siblings use the tablet or computer at home (distributed to them or already available at home). In addition, some students stated that their families did not allow them to access the virtual classroom application via their mobile devices (this problem was overcome by defining a mobile

data package for the families). In the face of this situation, the researcher brought the issue to the agenda of the validity committee. In the meeting, the idea that this situation was caused by the attitudes of the families and that they should be interviewed to overcome this problem gained weight. The researcher decided to interview the families after the meeting. The researcher interviewed the families in line with the decision taken and recorded the following statements in his diary after the interviews:

"In my interviews with the families, I asked that the tablets and computers at home be used primarily by the students participating in the application. I also offered to purchase an additional internet package for the parents' mobile phones for families who had problems with internet access. All the families I interviewed said that this was not necessary and that they themselves could provide internet access for their children. After the family stated that they would take the necessary care in this regard, I ended the interview with the families."

After the interview with the families, the researcher did not encounter any situation arising from the inability of the students to use technological tools and equipment or to access the internet in the following process.

Problems arising from technological equipment and internet and solutions to these problems:

After determining the students to be included in the action research group, the researcher determined that some of the students in the group did not have technological tools such as computers, tablets or mobile phones and internet access, while some of them used their parents' mobile phones for internet access (Table 2). After identifying the students who did not have access to tablets or computers, the researcher decided to overcome their lack of technological tools. The researcher obtained three computers from the university where she worked. The researcher provided three tablet computers for the remaining students. The researcher distributed the computers and tablets to six students just before the beginning of the application. After the researcher distributed the equipment to the students who did not have computers or tablets, the problem arising from the lack of technological tools was eliminated.

The researcher determined that there were students who had problems with internet access. Accordingly, some of the students in the action research group do not have wired internet access in their homes. The out-of-class activities of the teaching process to be carried out based on the FL model will be carried out through the virtual classroom environment. For this reason, it is seen as a necessity for students to have internet access at home. It was determined that only 4 students included in the action research group had wired internet access at home. The rest of the students were able to connect to the internet via their families' mobile devices (Table 1). This situation was seen as a problem from the beginning of the research. In the first week of the implementation, some students could not access the homework content sent to them via the virtual classroom application. Some students justified this situation by the fact that their parents' mobile phones had run out of internet quotas. This situation mobilised the researcher. The researcher brought this situation to the validity committee. In the committee meeting, it was decided to interview the families of the students in order to solve this problem. In the interviews with the families, they were first asked to provide wired internet access to their homes. If this was not possible, they were asked to allocate the internet quotas of their mobile lines to the students. If requested, the researcher stated that the researcher could define a mobile internet package for the families, provided that it was for the use of the children during the implementation period. After the interviews with the families, the researcher wrote the following in her diary:

During my interview with the parents, I asked them whether they would be able to connect the internet to their homes. The parents of two students stated that they would try to bind them during the week. The other two parents said that this was not possible for now. I asked these families to spend the internet quotas of their mobile lines carefully. I also told them that I could define an internet package for the students to use if they wanted. The families stated that this was not necessary. I ended my interviews by taking the promise of the parents that there would be no problems that may arise from the internet use of the students.

After the interview with the families, the problems experienced by the students due to internet access decreased in the following weeks. Thus, the internet access problem encountered by the students in their out-of-class studies was eliminated.

Problems arising from the virtual classroom application and their solutions: During the teaching process, a problem was encountered that could not be completely resolved and whose source was the virtual classroom application itself. Accordingly, it was not possible to precisely monitor whether the students were working on the instructional content uploaded to the virtual classroom environment. Each student must click on the 'Mark as completed' tab on the application to indicate that they have completed the assignment content defined for them. Students who do not click on this tab after the date set for the completion of the study are considered to have 'completed the study late', and students who do not click at all are considered to have 'not completed the study'.

The researcher informed the students about this issue in the meeting where the Google Classroom application was introduced and emphasised the importance of the 'Mark as completed' button for the process. However, after the students started to use the application, the researcher started to think that clicking the relevant button could not prove whether the content uploaded to the virtual classroom environment was actually studied or not. The diary notes in which the researcher conveyed his thoughts on this subject are as follows:

...In addition, the fact that students click on the 'completed' button may not necessarily indicate whether they have actually worked on the assignment for which they are responsible. A student who has not done any work through the virtual classroom seems to have fulfilled his/her task after clicking the 'completed' button. There needs to be some proof that the students have been studying. One way of doing this might be to ask them to take notes on their work."

The researcher brought this issue to the agenda of the validity committee and shared his views with the committee members. In the meeting, it was decided that the students would take notes about the activities they carried out outside the classroom. In addition, the idea of sharing their notes in the classroom environment was accepted. As a result, the researcher tried to control the students' working on the homework content uploaded to the virtual classroom environment through the notes they kept. However, the researcher could not find a solution to the deficiency of the virtual classroom application in this sense throughout the study.

Opinions on the teaching process based on FL model

The researcher consulted the opinions of students, teachers and parents in order to reveal their thoughts on the FL model. In this context, semi-structured interviews were conducted with a total of 17 people, including eight students, eight parents and the classroom teacher. Student and researcher diaries were also analysed. Based on the data obtained from the interviews and diaries, one theme and 13 sub-themes were reached. Theme and sub-themes are shown in Figure 5.

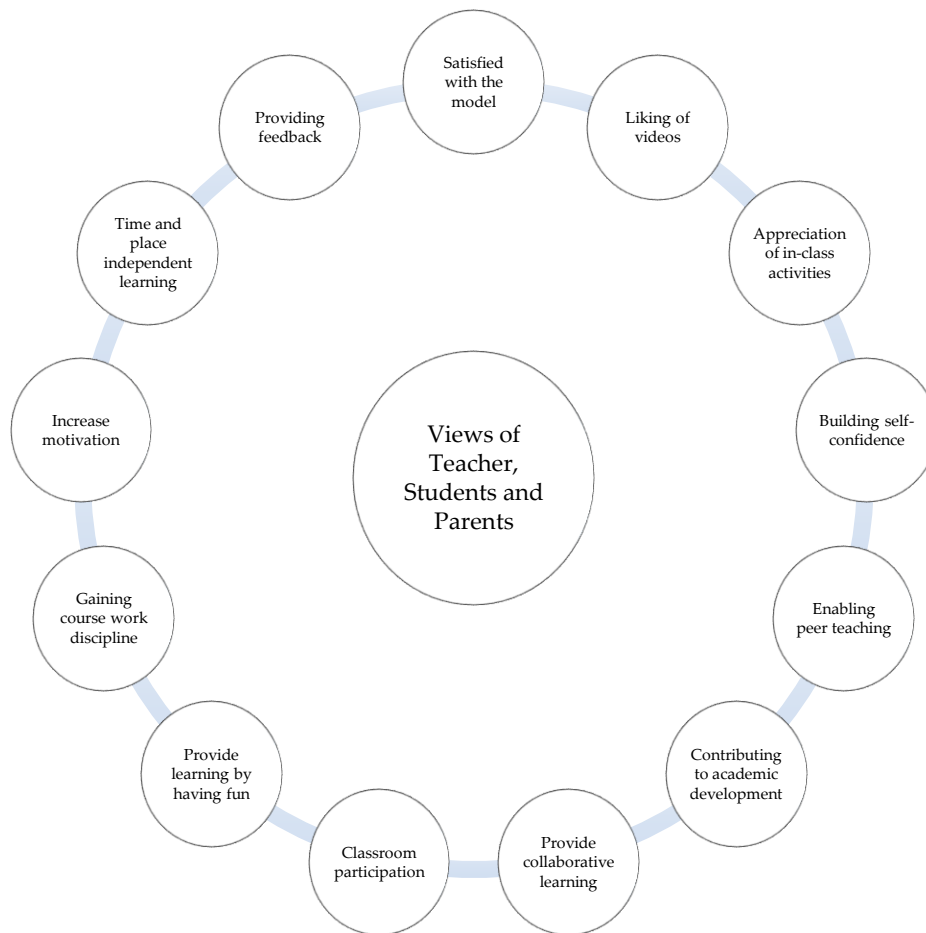


Figure 5. Views of teacher, students and parents on the FL model

Satisfied with the model: The researcher determined that the students were satisfied with the FL model in both in-class observations and face-to-face interviews with the students. The fact that the lesson was fun and that they were not bored during the process came to the forefront as expressions supporting the students' views on their satisfaction. The student with the code name Mehmet stated that they faced a situation different from the usual teaching methods in other courses. Mehmet stated that this new situation was pleasing for them. A part of Mehmet's views in which he emphasised his views on this issue is as follows:

...

Researcher: *Mehmet, there was a model we used in class. A model like studying at home and doing activities at school. I would like to know your general opinion about this model. How do you find this model?*

Mehmet: *Is it a flipped learning model?*

Researcher: *Well, then, since you know the name. What do you think about the flipped learning model?*

Mehmet: *I like it. It is a good model.*

Researcher: *What you like about it?*

Mehmet: *For example, we had never done this before. Our class teacher always made us write during lessons. At home, for example, we didn't watch videos, we solved tests, but we solved them from the book*

...

Liking of videos: It was determined that the students liked the subject expression videos prepared for out-of-class teaching activities. The students emphasised that the video content was entertaining, that they were not bored while watching the videos and that they felt like watching cartoons. A part of the dialogue between the student with the code name Kadri and the researcher on this subject is as follows:

...

Researcher: *So what do you think about the videos? How do you think the videos you watched were?*

Kadri: *It was very beautiful. It was like a cartoon film.*

Researcher: *What do you think was nice about it? Why did you like it?*

Kadri: *It was fun. It was telling different things. It was giving us information.*

Researcher: *You said it was like watching a cartoon film? Why did you say that?*

Kadri: *Because there are such things when watching cartoons. There are children, for example. It was like that in these videos. It was very beautiful.*

...

Appreciation of in-class activities: During face-to-face interviews, students expressed that they liked the activities carried out in the classroom. One of the aims of the FL model is to use the time allocated for teaching activities in the classroom more effectively and to ensure permanent learning. In this respect, the activities carried out in the classroom are of great importance for the FL model. The students expressed that they liked the activities carried out in the classroom. According to the students, the activities carried out in the classroom made significant contributions both in making their learning permanent and in improving their academic achievement. The statements of Ayşe, who said that the activities carried out in the classroom were important in terms of reinforcing what she studied at home, are as follows:

For example, my knowledge increased, I had fun. I had more fun when I did it with my friends...I learnt more when I did it in the classroom. I studied at home, for example, I also studied here. I studied more, for example.

Based on the opinions expressed by the students during the interviews, it can be said that the activities carried out in the classroom based on the FL model were liked by the students.

Building self-confidence: The researcher determined that the self-confidence of the students increased during in-class observations. It was observed that this increase in self-confidence was related to the implementation of the FL model. The fact that the students came to the class by studying the teaching content transferred to them through the virtual classroom environment helped them gain self-confidence. Fatma, who expressed the view that there is a relationship between gaining self-confidence and coming prepared for the lesson, wrote the following in her diary:

It is very nice to watch the videos. I am not afraid when I come to class because I know what we will cover beforehand.

The classroom teacher also stated that the self-confidence of the students participating in the action research group increased during the interview with her. The views of the classroom teacher on this subject are as follows:

As I said, they were not very participative students. For example, Mehmet didn't talk much. He is actually a smart student. But he was shy. He's attending class now. The others are the same.

Both teachers' and students' opinions and the researcher's observation notes revealed that the FL model increased students' self-confidence.

Enabling peer teaching: At different stages of the teaching process, situations in which peer teaching took place emerged. One of these stages was the implementation process in which the Google Classroom application was taught. The researcher recorded his observations about this process in his diary as follows:

At the end of the lesson, students using tablets started to download the android application instead of going to the website of the application. At this stage, I observed that the students helped each other. They started to show each other how to enter the application with their usernames and passwords and how to use the application. I can say that there was a kind of peer teaching environment.

Another example of peer teaching took place on the chat screen of the Google Classroom application. Students started to ask each other questions and give answers to these questions. Students started to ask questions about their work using the chat flow screen through the virtual classroom environment. The researcher observed that the students gave answers to the questions asked. In addition to these, it was observed that peer teaching frequently took place during the teaching practices carried out in the classroom. Based on the interviews, the researcher's observations and diary notes, it can be stated that teaching practices based on the FL model enable peer learning.

Contributing to academic development: Throughout the teaching activities based on the FL model, activities were carried out to support students' academic development. The results of the achievement tests and subject tests applied to the students revealed that the academic achievement of the students improved. In addition to these data, the researcher's interviews with the classroom teacher and students also revealed that academic achievement improved. In the interview conducted by the researcher with the teacher, it was stated that the academic achievement of the students included in the action research group increased significantly. The teacher expressed her views in this direction as follows:

I'd say they're doing better now. The students who work with you have better grades. I am actually conveying both my observations and data. For example, the students who worked with you got better grades in the last written lessons.

The class teacher made a comparison between the eight students in the action research group and the rest of the class according to the results of the end-of-term exams she had conducted. As a result of this comparison, the class teacher emphasised that she observed that the FL model contributed to the improvement of students' academic achievement.

Provide collaborative learning: The researcher observed that collaborative learning took place among the students during the teaching practices based on the FL model. In the interviews she conducted with the students, he reached opinions that supported her observations. At least one of the teaching activities carried out in the classroom every week consisted of group activities in which two or more students had to come together. In this way, intensive co-operative learning emerged among the students. The researcher recorded this situation in her diary as follows:

Some of the in-class activities I designed required students to work in groups. This situation also created a co-operative learning environment for the students. The first ones that come to my mind are the puzzle activity in which they created a map of the world and Turkey, the poster activity in which they introduced children's rights, and the case study activity in which they made laws by representing the legislative, executive and judicial organs. In this respect, I can say that the teaching practices based on the FL model created a co-operative learning environment for the students.

Classroom participation: The researcher observed that students' participation in the activities increased over time during the implementation process. As the weeks progressed, it was observed that the students submitted their homework on time, the number of repetitions related to the content uploaded to the virtual classroom environment increased, and accordingly, their course participation increased. The notes written by the researcher in the diary about his observations in this direction are as follows:

Students want to participate not only in one activity but in all activities. Their willingness to participate in the lesson is at a very high level. I think this is a result of the fact that they come by working at home.

In the interview with the classroom teacher, she stated that the participation of the students in the action research group increased in other lessons. The conversation between the researcher and the classroom teacher on this subject is as follows:

...

Researcher: *Did the participation of the students in the action research group in the lessons with you change?*

Teacher: *Yes, actually they are more willing now.*

Researcher: *Can you give an example with names, teacher?*

Teacher: *How can I say? Zafer, for example, is even more willing. He wants to attend classes now. Then Mehmet, for example, is very active. He gets up and talks. So instead of saying one by one, I can say it for all of them.*

Researcher: *What could be the reason for this, teacher?*

Teacher: *Of course, the activities they do with you are most likely. Here, working with technology, participating in a different process. These were good for them. Their self-confidence also increased. When their self-confidence increased, they started to participate in the lesson.*

...

The data obtained by the researcher support the views that all students in the action research group improved their willingness to participate in the lesson.

Provide learning by having fun: The researcher determined that the students enjoyed the activities during the implementation process based on the FL model. The researcher observed that the students had a lot of fun, especially in the observations made during the classroom teaching activities. Student views on this issue also supported the researcher's views. Accordingly, the students stated that they enjoyed the activities carried out in the classroom environment. The conversation between the researcher and the students during the club puzzle activity was as follows:

...

Researcher: *How did you find the teaching activity?*

Merve: *It was very good, teacher. Let's go it again.*

Rabia: *Yes, teacher, it was very good. Let's do it again.*

Kadri: *Teacher, it was very fun.*

...

It was determined that the students expressed that they enjoyed not only in-class application processes but also out-of-class application processes. Merve expressed her ideas on this subject as *'I have a lot of fun watching videos, so I don't get bored no matter how much I watch'*. Mehmet, on the other hand, stated that the animated and audible videos he watched through the virtual classroom application made the activities they carried out outside the classroom fun, *"The videos are very enjoyable, teacher. They are like cartoons. It is both moving and loud. I have a lot of fun while watching them."*

Gaining course work discipline: In his observations, the researcher determined that out-of-class activities based on the FL model helped students gain discipline for studying. The researcher observed that the students submitted the homework content uploaded to the virtual classroom environment on time except for the first week of implementation. Based on this data, the researcher developed an opinion that the FL model provides discipline for studying. The findings of the interviews conducted by the researcher supported his views in this direction. Mehmet's mother expressed how the FL model changed Mehmet's study behaviour as follows:

...

Researcher: *In this process, what attracted your attention the most about Mehmet's studying. For example, was there anything that he did not do before but started to do after this practice?*

Mehmet's mother: *As soon as Mehmet came home, he switched on the computer. I thought he was playing games, but he was watching videos. He watched videos almost every day.*

Researcher: *Did you tell him to work or does he sit on his own homework?*

Mehmet's mother: *I used to tell him before. For example, I still tell him in maths, but in social studies he does it without me telling him. He comes home and watches the videos immediately*

Researcher: *Did you ever warn Mehmet to do his homework*

Mehmet's mother: *When he did homework on the computer, he did it without us telling him. He did it willingly. But he only watched the videos. I mean the homework you gave him. But sometimes he didn't do other lessons. I was telling him to look at those lessons too.*

Researcher: *What did he say to you when you asked him to look at other lessons?*

Mehmet's mother: *He said he would do it immediately if they had videos. I mean, he loved videos. He watched them every day. Sometimes he logged in from my phone. He was watching from there. He loved it.*

...

Based on the observations of the researcher and the opinions of students and parents, it was determined that the activities of the FL model carried out outside the classroom enabled students to gain discipline for studying.

Increase motivation: The researcher determined that students' motivation towards the social studies course was high during the implementation process of the FL model. The researcher recorded her observations on this subject in her diary as follows:

Students leave their own classrooms and move to another classroom for the social studies lesson. When I observe the students coming to my classroom after the second bell rings, I see that they are very eager. Sometimes they even compete with each other to enter the classroom first. I can observe that they participate in the lesson with high motivation from the first week.

The fact that the FL model increased student motivation was also reflected in student opinions. In the interview with Ayşe, she stated that her motivation level towards the lesson was high. Ayşe's thoughts on this subject are as follows:

...

Researcher: *How did you feel when you had social studies lessons?*

Ayşe: *Teacher, I felt very happy. I always wanted to have lessons with you*

Researcher: *Why is that?*

Ayşe: *Because we were doing very nice things. For example, we did puzzles. We were a council once. That's why I always wanted to have a lesson with you.*

...

Based on the researcher's observations and student opinions, it can be said that teaching practices based on the FL model increase students' motivation towards social studies course.

Time and place independent learning: The researcher determined that the FL model saved the teaching processes from being time-dependent. The researcher aimed to reveal the students' thoughts on this issue during the semi-structured interviews. Ayşe, one of the students, expressed her views on this issue as *"For example, I could watch the videos whenever I wanted "*. Mehmet expressed his views as *"Sometimes from the computer, sometimes from my mum's phone. For example, once I went to my aunt who did not have internet at home, I wrote my password and logged in from there "*. Both students emphasised that the FL model enabled them to access the teaching content at any time.

Providing feedback: It was determined that the FL model provided an opportunity for students to receive feedback. The researcher recorded the following in her diary:

At the beginning of the lesson, I asked the students to pass on the notes they had taken. Some of them were notes on the subject. Some students had prepared questions about the topics they had in mind. I answered the students' questions.

The researcher also wanted to get students' opinions about the feedback opportunity provided by the FL model. Students emphasised the importance of subject tests in the interviews with them. Accordingly, they stated that the question solutions they performed in the classroom enabled them to see and correct the mistakes they had made. In the interview between the researcher and Merve, the following dialogue developed on this subject:

...

Researcher: *What do you think about reviewing the subject tests in class?*

Merve: *It was very good.*

Researcher: *It what sense was it good?*

Merve: *For example, we were revising, you were telling us our mistakes. We were learning.*

...

Based on both the researcher's opinions and student expressions, it is seen that the FL model offers the opportunity for students to receive feedback.

Discussion, Conclusions and Recommendations

This study was conducted to reveal the reflections of teaching practices based on the FL model at the primary school level and in the context of social studies course. The results of the study show that the FL model implementation was realised in three stages. It was determined that the model was effective on the development of students' academic achievement levels. It was determined that the problems that emerged during the implementation process of the FL model arose from the student, family, technological equipment and internet access, virtual classroom application and designed activities. The problems that emerged were tried to be eliminated with action plans developed in accordance with the nature of action research. Students stated that they were satisfied with the FL model based teaching application, they liked the video content and in-class teaching activities. The students stated that the FL model increased their self-confidence, motivation and course participation, contributed to peer teaching and cooperative learning processes, and made teaching independent from time and space.

In the study, it was determined that the FL model was realised in 3 stages. The first stage is the determination of the virtual classroom environment to be used in order to carry out out-of-class teaching activities based on the FL model and introducing it to the students. The second stage includes the execution of out-of-class teaching activities. The third stage includes the execution of in-class teaching activities.

As a result of the research, it was determined that teaching practices based on FL model improved students' academic achievement levels. Accordingly, it was determined that the post-test scores of the students obtained from the achievement tests related to the two learning areas of the social studies course in which the model was carried out differed significantly positively compared to the pre-test scores. This finding is similar to many research findings in the literature (Aybirdi et al., 2023; Birgili et al., 2021; Erbil, 2019; Güven-Demir, 2018; Lee & Wallace, 2018; Moghadam & Razavi, 2022; Naycı, 2017; Oğuz, 2023; Tural & Yazar, 2021). However, in the studies examining participant views on the FL model; repetition (Bursa, 2019; Evrensel, 2021), individual speed (Akgün, 2015; İnce, 2022; Yang, 2017), time and space independent teaching (Oyola, 2016), transfer of content with videos (Söğüt, 2019), finding the application process fun (Graziano, 2017; Shillingstad, 2017), active participation (Clark, 2015; Lumpkin & Achen, 2014), feedback (Choe & Seong, 2016) and preparation (O'flaherty & Phillips, 2015) were shown as factors that contribute to the development of academic achievement. The results obtained from the present study are interpreted in a similar causality. Accordingly, the features of the FL model application such as making teaching independent from time and space, providing students with the opportunity to make many repetitions at their own individual pace, being fun, being student-centred, requiring students to come to class prepared, providing feedback to students, being based on student activity and the teacher being in the position of a guide are seen as possible reasons for its positive effect on academic achievement level.

The findings that students' responsibilities towards homework have improved are in line with the findings of the studies in the literature (Bursa, 2019; Evseeva & Solozhenko, 2015; Medone, 2019; Smith, 2015). In all of these studies, it was reported that the FL model increased students' awareness of responsibility. In the present study, the students emphasised that they started to see the teaching content given to them outside the classroom as a part of the process over time. The students stated that this content went beyond a classical homework understanding and was perceived as an integral part of in-class teaching activities. It was determined that the parents' views also supported this situation. In the theoretical dimension of the study, it was mentioned that homework caused some problems for teachers, students and parents. However, it was emphasised that the FL model was thought to contribute to the elimination of these problems. It was seen that the research findings support this view.

It was determined that the FL model increased students' motivation towards the course, and this finding was found to coincide with the results of the research in the literature (Fidan, 2023; Huang et al., 2023; Izadpanah et al., 2023; Jong, 2023; Yarım et al., 2023). In all of these studies, it was reported

that teaching practices based on FL model increased student motivation. In particular, it was mentioned that the use of technology is an important factor that contributes to the development of this situation. In this study, it is thought that the research finding that students' motivation increased can be evaluated in this context.

Some problem situations were encountered during the implementation process of the FL model. It was observed that the most common problem encountered during the implementation was due to the inability to access the internet. Many research findings in the literature point to a similar problem situation (Asep et al., 2023; Baig & Yadegaridehkori, 2023; Mardiha et al., 2023; Storer, 2016). In these studies, it was mentioned that it is not possible to benefit from the FL model in the most efficient way in cases where internet access is insufficient or there is no secure internet access. In the current study, some problems were experienced in the implementation process of the FL model due to the problems experienced by the students due to internet access. In the model, internet access is of vital importance in carrying out out-of-class activities. The inability of students to access the content transferred outside the classroom due to problems arising from internet access causes disruption of the teaching activities to be carried out in the classroom. In the literature, it is seen that internet access problems are frequently mentioned among the reasons for the findings of studies with negative opinions about the model (Akdeniz, 2019; Fraga & Harmon, 2014; Ramirez et al., 2014).

Another problem that arises during the implementation process of the FL model is the technological inadequacies and access barriers to technology. The findings of the studies in the literature also support this finding (Appiah, 2024; Baig & Yadegaridehkori, 2023; Cevikbas & Kaiser, 2023). In these studies, it was emphasised that the problems students experienced in accessing technological tools interrupted the implementation stages of the FL model. In particular, it was stated that children of families with lower socioeconomic levels experienced disadvantages in accessing technology. The findings obtained in the current study were interpreted in a similar cause and effect relationship. Accordingly, the study was conducted in an educational institution located in a low socioeconomic environment. Students' problems in accessing technological tools were attributed to this reason. However, according to the data of the Turkish Statistical Institute (TURKSTAT) for the year 2022, the rate of portable computers such as laptops, tablets and notebooks in households in Turkey was determined as 46.6% (TURKSTAT, 2023). This data reveals the inadequacy of students' access to technological tools throughout the country. FL model has a structure in which teaching activities are carried out not only in the classroom environment but also outside the classroom. Internet and technological tools are two important elements in the execution of out-of-class activities. In order for the model to be carried out efficiently in all its dimensions, it is necessary to provide healthy access to both the internet and technological tools.

When evaluated in the context of social studies education, teaching processes based on the FL model increase students' academic achievement and motivation to learn. Social studies has basic objectives such as understanding individual-society relations, interpreting historical and geographical events, developing critical thinking and active citizenship skills. In this respect, the FL model provides students with the opportunity to obtain information in accordance with their individual learning pace and provides opportunities for collaboration and in-depth discussion in the classroom, which is in line with the goals of social studies education. The increase in students' motivation towards the social studies course with this model may change the perception that the social studies course is generally "memorisation-based". In addition, the increase in academic achievement and the retention of the information learnt can be considered as an important gain in terms of the long-term effects of the social studies course. It can be said that the FL model offers students a more active learning process, provides a more effective understanding of abstract concepts with concrete examples, and supports students' critical thinking and problem solving skills. As a result, increasing the applicability of the FL model in the context of social studies education can strengthen students' interest and participation in the course. This model can also contribute to making social studies education an approach that aims not only to transfer knowledge but also to gain 21st century skills.

In the context of the social studies course, the findings of the studies conducted based on the FL model were similar to or differentiated from the findings of this study. It was determined that the FL model both increased students' academic achievement in the social studies course and strengthened their interest and participation in the learning process. Especially Gündoğan-Enderöz (2021) and Nayci (2017) stated in their studies that the FL model increased student achievement and participation in the lesson and that students found the model fun and useful. Likewise, the potential of the FL model to change the perception that social studies education is memorisation-based was mentioned, and it was emphasised that this model strengthens in-class discussion and collaboration opportunities (Nayci, 2017). However, the fact that the gamified FL model did not have a significant effect on motivation in Şengün's (2021) study is a finding that differs from other studies. In addition, Erbil (2019) also examined the effect of the model on psychosocial variables and found that the model increased individual motivation. This phenomenon is a dimension that was not addressed in the study. Finally, Güven-Demir (2018) drew attention to an outcome such as planning skills, which was not directly included in the study. In summary, while the studies in the literature support the positive findings of this study on the FL model, the different effects on motivation and the problems in the implementation processes present unique differences when compared with other studies.

All these results suggest that the FL model can be utilised at the primary school level. The FL model removes the teaching process from being a one-dimensional structure through out-of-class, in-class and evaluation phases. This situation allows students to participate in teaching processes effectively. In addition, the inclusion of technology in educational processes and enabling individuals to construct knowledge based on their prior learning are the strengths of the FL model. In addition, necessary measures should be taken to prevent negative situations in terms of students' access to internet and technological tools. Especially the socioeconomic status of the families and their internet access opportunities should be well researched. In addition, the teaching process based on the FL model should be well planned. Teaching strategies to be used within the framework of this planning, teaching activities to be used in out-of-class environments, videos and other materials should be structured in a way to ensure the continuity of students' motivation. Otherwise, it will be difficult for the FL model to achieve the intended learning outcomes.

Based on the results of the research, the following suggestions can be made:

- It can be ensured that the social studies course at primary school level is based on the FL model.
- For the FL model to be implemented in the most effective way, internet access and computer hardware are indispensable elements. In this respect, students' computer, tablet and internet access needs can be met by the Ministry of National Education.
- Since it is a teaching model that enables effective learning to occur, in-service training activities can be organised by the faculties of teaching education of universities for classroom teachers about the FL model.
- This research was conducted with a small group of participants within its own context. The data obtained are limited to this context and the data collection methods of the action research model used: Research on the FL model can be conducted with the participation of students from different socioeconomic contexts and designed with different research models. In order to generalise the results related to the model, studies can be conducted with larger samples.

References

- Acar, M., & Acar, H. (2023). Türkiye’de sosyal bilgiler eğitiminde otantik öğrenme yaklaşımının kullanımına ilişkin yapılmış lisansüstü tezlerin incelenmesi. *International Journal of Progressive Studies in Education*, 1(2), 1-16.
- Açıkgöz, K. (2002). *Aktif öğrenme*. Eğitim Dünyası Yayınları.
- Adıgüzel, O. C. (2019). *Eğitim programlarının geliştirilmesinde ihtiyaç analizi el kitabı*. Anı Yayıncılık.
- Ağırman, N. (2023). *Ters yüz sınıf modelinin ilkokullarda uygulanabilirliğinin incelenmesi: Üçüncü sınıf matematik dersi örneği* (Thesis No. 785210) [Doctoral dissertation, Atatürk University]. Council of Higher Education National Thesis Center.
- Akdeniz, E. (2019). *Ters yüz sınıf modelinin akademik başarı, tutum ve kalıcılık üzerine etkisi* (Thesis No. 550404) [Master’s thesis, Necmettin Erbakan University]. Council of Higher Education National Thesis Center.
- Akgün, M. (2015). *Ters - düz sınıfların öğrencilerin akademik başarılarına ve görüşlerine etkisi* (Thesis No. 423423) [Master’s thesis, Fırat University]. Council of Higher Education National Thesis Center.
- Akpınar, B., & Gezer, B. (2010). Öğrenen merkezli yeni eğitim yaklaşımlarının öğrenme-öğretme sürecine yansımaları. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi*, (14), 1-12.
- Alataş, F. (2008). *İlköğretim programında 4. ve 5. sınıf sosyal bilgiler dersi öğretiminde karşılaşılan sorunlar* (Thesis No. 220347) [Master’s thesis, Dokuz Eylül University]. Council of Higher Education National Thesis Center.
- Appiah, S. (2024). Challenges learners face in using the flipped classroom model in the teaching and learning of religious and moral education in the Nzema East Municipality of the Western Region of Ghana. *Universal Journal of Social Sciences and Humanities*, 4(1), 12-19.
- Aras, Y. K. (2021). *Ters yüz sınıf modelinin sağlık eğitiminde kullanımına yönelik öğrenci görüşlerinin incelenmesi* (Thesis No. 674556) [Master’s thesis, Atatürk University]. Council of Higher Education National Thesis Center.
- Arshad, K., & Imran, M. A. (2013). Increasing the interaction time in a lecture by integrating flipped classroom and just-in-time teaching concepts. *Journal of Learning and Teaching*, 4(7), 1-13. <https://doi.org/10.21100/compass.v4i7.84>
- Asep, S., Sarah, K., & Rajji, A. (2023). The flipped classroom: A story from an efl classroom in Indonesia. *Mextesol Journal*, 47(2), 1-11.
- Aybirdi, N., Efe, H., & Atasoy-Sal, Ç. (2023). The impact of flipped learning on l2 learners' achievements: A meta-analysis. *Shanlax International Journal of Education*, 11, 41-60. <https://doi.org/10.34293/education.v11iS1-Jan.5891>
- Baepler, P., Walker, J. D., & Driessen, M. (2014). It's not about seat time: Blending, flipping, and efficiency in active learning classrooms. *Computers and Education*, 78, 227-236. <https://doi.org/10.1016/j.compedu.2014.06.006>
- Baig, M. I., & Yadegaridehkori, E. (2023). Flipped classroom in higher education: A systematic literature review and research challenges. *International Journal of Education Technology in Higher Education*, 20(61), 1-26. <https://doi.org/10.1186/s41239-023-00430-5>
- Baker, J. W. (2000). The classroom flip: Using web course management tools to become the guide by the side. In J. A. Chambers (Ed.), *Selected papers from the 11th International Conference on College Teaching and Learning* (pp. 9-17). Florida Community College at Jacksonville.
- Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. International Society for Technology in Education.
- Bergmann, J., & Sams, A. (2014). *Flipped learning: Gateway to student engagement*. International Society for Technology in Education.

- Bergmann, J., & Sams, A. (2016). *Flipped learning for elementary instruction*. International Society for Technology in Education.
- Bhagat, K. K., Chang, C. N., & Chang, C. Y. (2016). The impact of the flipped classroom on mathematics concept learning in high school. *Educational Technolohg & Society*, 19(3), 134-142.
- Birgili, B., Seggie, F. N., & Oğuz, E. (2021). The trends and outcomes of flipped learning research between 2012 and 2018: A descriptive content analysis. *Journal of Computers in Education*, 8(3), 365-394. <https://doi.org/10.1007/s40692-021-00183-y>
- Bishop, J. L., & Verleger, M. A. (2013). *The flipped classroom: A survey of the research*. Paper presented at 120th American Society for Engineering Education Annual Conference and Exposition, Atlanta, GA. <https://doi.org/10.18260/1-2--22585>
- Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods*. Pearson.
- Boyraz, S. (2014). *İngilizce öğretiminde tersine eğitim uygulamasının değerlendirilmesi* (Thesis No. 372445) [Master's thesis, Afyon Kocatepe University]. Council of Higher Education National Thesis Center.
- Bursa, S. (2019). *Sosyal bilgiler dersinde ters yüz sınıf uygulamalarının öğrencilerin akademik başarı ve sorumluluk düzeylerine etkisi* (Thesis No. 603631) [Doctoral dissertation, Anadolu University]. Council of Higher Education National Thesis Center.
- Büyüköztürk, Ş. (2013). *Sosyal bilimler için veri analizi el kitabı*. Pegem Akademi Yayınları.
- Cevikbas, M., & Kaiser, G. (2023). Can flipped classroom pedagogy offer promising perspectives for mathematics education on pandemic-related issues? A systematic literature review. *ZDM-Mathematics Education*, 55(1), 177-191. <https://doi.org/10.1007/s11858-022-01388-w>
- Chao, C. Y., Chen, Y. T., & Chuang, K. Y. (2015). Exploring students' learning attitude and achievement in flipped learning supported computer aided design curriculum: A study in high school engineering education. *Computer Applications in Engineering Education*, 23(4), 514-526. <https://doi.org/10.1002/cae.21622>
- Choe, E., & Seong, M. H. (2016). A case study of the Flipped Classroom in a Korean university general English course. *Journal of Pan-Pacific Association of Applied Linguistics*, 20(2), 71-93.
- Clark, K. R. (2015). Examining the effects of the flipped model of instruction on student engagement and performance in the secondary mathematics classroom: An action research study. *Journal of Education Online*, 12(1), 91-115. <https://doi.org/10.9743/JEO.2015.1.5>
- Correa, M. (2015). Flipping the foreign language classroom and critical pedagogies a (new) old trend. *Higher Education for the Future*, 2(2), 114-125. <https://doi.org/10.1177/2347631115584122>
- Çevikbaş, M. (2018). *Ters yüz sınıf modeli uygulamalarına dayalı bir matematik sınıfındaki öğrenci katılım sürecinin incelenmesi* (Thesis No. 524468) [Doctoral dissertation, Gazi University]. Council of Higher Education National Thesis Center.
- Çınar, M. (2023). *İlkokul 4. sınıf matematik dersinde ters yüz sınıf modelinin öğrencilerin akademik başarı ve motivasyonuna etkisinin incelenmesi* (Thesis No. 797402) [Doctoral dissertation, Fırat University]. Council of Higher Education National Thesis Center.
- Çimen, Y. (2022). *Öğrencilerin sosyal bilgiler öğrenme nedenleri, süreçte karşılaştıkları sorunlar, beklentileri ve sosyal bilgiler öğrenmelerinin yaşamlarına yansımaları* (Thesis No. 714730) [Master's thesis, Kahramanmaraş Sütçü İmam University]. Council of Higher Education National Thesis Center.
- Demetry, C. (2010). *Work in progress: An innovation merging "classroom flip" and team-based learning*. Paper presented at 40th ASEE/IEEE Frontiers in Education Conference, Arlington-Virginia. <https://doi.org/10.1109/FIE.2010.5673617>
- Deveci, H., & Bayram, H. (2022). Sosyal bilgilerin tanımı, kapsamı ve önemi. In Ö. Gürdoğan Bayır & T. Selanik Ay (Eds.), *İlk ve ortaokulda uygulama örnekleriyle sosyal bilgiler öğretimi* (pp. 11-34). Vizetek Yayıncılık.

- Duru, S., & Çoğmen, S. (2017). İlkokul ve ortaokul öğrencileri ile velilerin ev ödevlerine yönelik görüşleri. *İlköğretim Online*, 16(1), 354-365. <https://doi.org/10.17051/io.2017.76577>
- Elvan, D., & Mutlubas, H. (2020). Eğitim-öğretim faaliyetlerinde teknolojinin kullanımı ve teknolojinin sağladığı yararlar. *Mustafa Kemal Üniversitesi Eğitim Fakültesi Dergisi*, 4(6), 100-109.
- Erbil, D. G. (2019). *Tersine çevrilmiş sınıf ortamında işbirlikli öğrenme yönteminin akademik başarı ve psikososyal değişkenler üzerindeki etkisi* (Thesis No. 565870) [Doctoral dissertation, Dokuz Eylül University]. Council of Higher Education National Thesis Center.
- Erdil, Z. (2010). Sosyoekonomik olarak risk altında bulunan çocuklara yönelik erken müdahale programları ve akademik başarı ilişkisi. *Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi*, 17(1), 72-78.
- Erkan, H. (2023). *Ters yüz öğrenme modeli ile yürütülen STEM etkinliklerinin ilkökul 4. sınıf öğrencilerinin bilimsel yaratıcılık, STEM tutum ve STEM algıları üzerine etkisi* (Thesis No. 793655) [Master's thesis, Giresun University]. Council of Higher Education National Thesis Center.
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology chance: How knowledge confidence, beliefs and culture intersect. *Journal of Research on Technology in Education*, 42(3), 255-284. <https://doi.org/10.1080/15391523.2010.10782551>
- Evrensel, B. (2021). *Sosyal bilgiler dersinde tersyüz öğrenme modelinin eğitim bilişim ağı destekli kullanımının değerlendirilmesi* (Thesis No. 673083) [Master's thesis, İstanbul University]. Council of Higher Education National Thesis Center.
- Evseeva, A., & Solozhenko, A. (2015). Use of flipped classroom technology in language learning. *Procedia-Social and Behavioral Sciences*, 206, 205-209. <https://doi.org/10.1016/j.sbspro.2015.10.006>
- Fidan, M. (2023). The effects of microlearning-supported flipped classroom on pre-service teachers' learning performance, motivation and engagement. *Education and Information Technologies*, 28, 12687-12714. <https://doi.org/10.1007/s10639-023-11639-2>
- Filiz, O., & Kurt, A. A. (2015). Flipped learning: Misunderstandings and the truth. *Eğitim Bilimleri Araştırmaları Dergisi*, 5(1), 215-229.
- Fraga, L. M., & Harmon, J. (2014). The flipped classroom model of learning in higher education: An investigation of preservice teachers' perspectives and achievement. *Journal of Digital Learning in Teacher Education*, 31(1), 18-27. <https://doi.org/10.1080/21532974.2014.967420>
- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7(2), 95-105. <https://doi.org/10.1016/j.iheduc.2004.02.001>
- Gönenç, S., & Açıkalın, M. (2017). Sosyal bilgiler öğretmenlerinin sosyal bilgiler öğretiminde karşılaştıkları sorunlar ve bunlara getirdikleri çözüm önerileri. *Trakya Üniversitesi Eğitim Fakültesi Dergisi*, 7(1), 26-41.
- Graziano, K. J. (2017). Peer teaching in a flipped teaching education classroom. *Tech Trends*, 61, 121-129. <https://doi.org/10.1007/s11528-016-0077-9>
- Güler, A., Halıcıoğlu, M. B., & Taşkın, S. (2013). *Sosyal bilimlerde nitel araştırma*. Seçkin Yayıncılık.
- Gürdoğan-Enderöz, F. (2021). *İlkokul öğrencilerinin derse katılımlarının ve öğrenme sorumluluklarının ters yüz öğrenme yöntemi ile geliştirilmesi: Bir eylem araştırması* (Thesis No. 677027) [Master's thesis, Mersin University]. Council of Higher Education National Thesis Center.
- Güneş, G., Ayantaş, T., Güneş, C., Güleriyüz, O., & Arıkan, A. (2021). Sosyal bilgiler öğretiminde teknoloji kullanımına yönelik araştırmaların incelenmesi, *Türkiye sosyal Araştırmalar Dergisi*, 25(3), 859-590.
- Gürdoğan-Bayır, Ö. (2023). Sosyal bilgiler öğretiminde yaşanan sorunlar ve çözüm önerileri. In H. Esen Aygün (Ed.), *Sınıf eğitiminde yaşanan güncel sorunlar ve çözüm önerileri* (pp. 115-140). Eğiten Kitap.

- Gürelî Kıvrak, M. (2023). *Fen öğretiminde ters yüz eğitim modelinin 4. sınıf öğrencilerinin tutum ve başarılarına etkisi* (Thesis No. 834055) [Master's thesis, Mustafa Kemal University]. Council of Higher Education National Thesis Center.
- Gürgür, H. (2017). Eylem araştırması. In A. Saban & A. Ersoy (Eds.), *Eğitimde nitel araştırma desenleri* (pp. 32-80). Anı Yayıncılık.
- Güven-Demir, E. (2018). *Ters yüz sınıf modeline dayalı uygulamaların ilköğretim 4. sınıf öğrencilerinin akademik başarı ve planlama becerilerine etkisi* (Thesis No. 519317) [Doctoral dissertation, Ondokuz Mayıs University]. Council of Higher Education National Thesis Center.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2013). *Multivariate data analysis*. Pearson Education Limited.
- Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement* (1st ed.). Routledge.
- Hayırsever, F., & Orhan, A. (2018). Ters yüz edilmiş öğrenme modelinin kuramsal analizi. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 14(2), 572-596. <https://doi.org/10.17860/mersinefd.431745>
- Huang, A. Y. O., Lu, O. H. T., & Yang, S. J. H. (2023). Effects of artificial intelligence-enabled personalized recommendations on learners' learning engagement, motivation, and outcomes in a flipped classroom. *Computers & Education*, 194(6), 104684. <https://doi.org/10.1016/j.compedu.2022.104684>
- Izadpanah, S., Bigdeli, H., & Bi, J. (2023). The effect on the flipped classroom on reflective thinking, academic self-efficacy and achievement motivation in language learners in intermediate level. *Education and Information Technologies*, 28, 11589-11613. <https://doi.org/10.1007/s10639-023-11655-2>
- İnce, E. (2022). *Bilişim teknolojileri ve yazılım dersinde ters yüz öğrenme modelinin öğrenenlerin akademik başarılarına, motivasyonlarına ve teknolojiyle kendi kendine öğrenme düzeylerine etkisi* (Thesis No. 741490) [Master's thesis, Mimar Sinan Fine Arts University]. Council of Higher Education National Thesis Center.
- İyitoğlu, O. (2018). *The impact of flipped classroom model on efl learners' academic achievement, attitudes and self-efficacy beliefs: A mixed method study* (Thesis No. 491434) [Doctoral dissertation, Yıldız Teknik University]. Council of Higher Education National Thesis Center.
- Johnson, A. P. (2014). *Eylem araştırması el kitabı* (Y. Uzuner & M. Özten-Anay, Ed. & Trans.). Anı Yayıncılık.
- Johnson, D. (2012). Power up! Taking charge of online learning. *Educational Leadership*, 70(3), 84-85.
- Jong, M. S. Y. (2023). Flipped classroom: Motivational affordances of spherical video-based immersive virtual reality in support of pre-lecture individual learning in pre-service teacher education. *Journal of Computing in Higher Education*, 35, 144-165. <https://doi.org/10.1007/s12528-022-09334-1>
- Kansızoğlu, H. B., & Bayrak Cömert, Ö. (2021). Ters yüz edilmiş sınıf modeline dayalı yazma öğretiminin ortaokul öğrencilerinin üstbilişsel yazma farkındalığı ve yazma başarısına etkisi. *Eğitim ve Bilim*, 46(205), 279-302. <https://doi.org/10.15390/EB.2020.8823>
- Kara, C. O. (2016). Ters yüz sınıf. *Tıp Eğitimi Dünyası Dergisi*, 15(45), 12-26. <https://doi.org/10.25282/ted.256096>
- Karaca, C. (2016). Öğretim teknolojilerinde güncel bir yaklaşım: Ters yüz öğrenme. In Ö. Demirel & S. Dinçer (Eds.), *Eğitim bilimlerinde yenilikler ve nitelik anlayışı* (pp. 1161-1172). Pegem Akademi Yayınları. <https://doi.org/10.14527/9786053183563b2.070>
- Kaya, E. (2023). *Ters yüz sınıf modeline dayalı öğretimin ilköğretim 4. sınıf öğrencilerinin fen bilimleri dersi başarı ve tutumlarına etkisi* (Thesis No. 823274) [Doctoral dissertation, İnönü University]. Council of Higher Education National Thesis Center.
- Kayan, M. F. (2020). *Evde ders okulda ödev modelinin akademik başarı, kalıcılık ve sınıf iklimi üzerine etkisi* (Thesis No. 608851) [Doctoral dissertation, Düzce University]. Council of Higher Education National Thesis Center.

- Kırmızıgül, H. F. (2018). *Ortaokul matematik dersinde verilen ev ödevlerine yönelik veli görüşlerinin bazı değişkenler açısından incelenmesi* (Thesis No. 515442) [Master's thesis, Fırat University]. Council of Higher Education National Thesis Center.
- King, A. (1993). From sage on the stage to guide on the side. *College Teaching*, 41(1), 30-35. <https://doi.org/10.1080/87567555.1993.9926781>
- Koçak, G. (2019). *Ters yüz öğrenmenin 7. sınıf öğrencilerinin akademik başarısına etkisi* (Thesis No. 556375) [Master's thesis, İnönü University]. Council of Higher Education National Thesis Center.
- Korkmaz, G. (2023). *Sosyoekonomik açıdan dezavantajlı öğrencilerin fene katılımı ve aile desteği ilişkisi: Beklenti-değer teoremi perspektifi* (Thesis No. 793744) [Master's thesis, Uludağ University]. Council of Higher Education National Thesis Center.
- Lee, G., & Wallace, A. (2018). Flipped learning in the English as a foreign language classroom: Outcomes and perceptions. *TESOL Quarterly*, 52(1), 62-84. <https://doi.org/10.1002/tesq.372>
- Lumpkin, A., & Achen, R. M. (2014). Flipping a class: Active learning and more of it. *Sport Management Education Journal*, 9(2), 79-90. <https://doi.org/10.1123/SMEJ.2014-0042>
- Mardiha, S. M., Alibakhshi, G., Mazloum, M., & Javaheri, R., (2023). Electronic flipped classrooms as a solution to educational problems caused by COVID-19: A case study of a research course in Iran higher education. *The Electronic Journal of e-Learning*, 21(1), 26-35. <https://doi.org/10.34190/ejel.21.1.2440>
- Mason, G. S., Shuman T. R., & Cook, K. E. (2013). Comparing the effectiveness of an inverted classroom to a traditional classroom in an upper-division engineering course. *IEEE Transactions on Education*, 56(4), 430-435. <https://doi.org/10.1109/TE.2013.2249066>
- Mayers, A. (2013). *Introduction to statistics and spss in psychology*. Pearson Education.
- Mazur, E. (1997). *Peer instruction: A user's manual*. Prentice Hall.
- McLaughlin, J. E., White, P. J., Khanova, J., & Yuriev, E. (2016). Flipped classroom implementation: A case report of two higher education institutions in the United States and Australia. *Computers in the Schools*, 33(1), 24-37. <https://doi.org/10.1080/07380569.2016.1137734>
- Medone, L. M. (2019). *Understanding digital native parents' perspectives of flipped classrooms: An exploratory case study* (Publication No. 13882041) [Doctoral dissertation, Northcentral University]. ProQuest Dissertations & Theses Global.
- Merriam, S. B. (2015). *Nitel araştırma: Desen ve uygulama için bir rehber* (S. Turan, Ed. & Trans.). Nobel Yayınları.
- Miles, M. B., & Huberman, A. M. (2015). *Nitel veri analizi* (S. Akbaba-Altun & A. Ersoy, Ed. & Trans.). Pegem Akademi Yayınları.
- Mills, G. E. (2003). *Action research: A guide for the teacher researcher* (2nd ed.). Merrill Prentice Hall.
- Mills, G. E. (2011). *Action research: A guide for the teacher researcher*. Pearson
- Milman, N. (2012). The flipped classroom strategy: What is it and how can it best be used. *Distance Learning*, 9(3), 85-87.
- Moghadam, S. K., & Razavi, M. R. (2022). The effect of the flipped learning method on academic performance and creativity of primary school students. *European Review of Applied Psychology*, 72(5), 100811. <https://doi.org/10.1016/j.erap.2022.100811>
- Morin, B., Kecskemety, K. M., Harper, K. A., & Clingan, P. A. (2013). *The inverted classroom in a first-year engineering course*. Paper presented at the ASEE Annual Conference and Exposition. Atlanta, Georgia. <https://doi.org/10.18260/1-2--22605>
- Nayci, Ö. (2017). *Sosyal bilgiler öğretiminde ters yüz sınıf modeli uygulamasının değerlendirilmesi* (Thesis No. 481748) [Doctoral dissertation, Ankara University]. Council of Higher Education National Thesis Center.

- O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *The Internet and Higher Education*, 25, 85-95. <https://doi.org/10.1016/j.iheduc.2015.02.002>
- Oğuz, O. (2023). *Hayat bilgisi dersinde Web 2.0 araçları ile ters yüz edilmiş sınıfların öğrenci başarısına etkisi* (Thesis No. 816699) [Master's thesis, Kilis 7 Aralık University]. Council of Higher Education National Thesis Center.
- Ok, S. (2019). *Ters yüz öğrenme ortamlarında öğrencilerin akademik başarılarının ve öz düzenleyici öğrenme becerilerinin araştırılması* (Thesis No. 561667) [Master's thesis, Balıkesir University]. Council of Higher Education National Thesis Center.
- O'Neil, K., Kelly, T., & Bone, S. (2012). We turned learning on its ear: Flipping the developmental classroom. In T. Amiel & B. Wilson (Eds.), *Proceedings of EdMedia 2012-World Conference on Educational Media and Technology* (pp. 2752-2756). Association for the Advancement of Computing in Education (AACE).
- Oyola, M. (2016). *Content planning and delivery in a flipped classroom: A qualitative examination* (Publication No. 10024135) [Doctoral dissertation, Missouri Baptist University]. ProQuest Dissertations & Theses Global.
- Öcal, S. (2009). *İlköğretim 4. ve 5. sınıf öğrencilerinin ev ödevlerine yönelik tutumlarının oluşmasında ailelerin ve öğretmenlerin rolü* (Thesis No. 253866) [Master's thesis, Mustafa Kemal University]. Council of Higher Education National Thesis Center.
- Özpınar, İ., & Aydoğan-Yenmez, A. (2014). Eylem araştırması. In M. Metin (Ed.), *Kuramdan uygulamaya eğitimde bilimsel araştırma yöntemleri* (pp. 441-467). Pegem Akademi Yayınları.
- Özpolat, V. (2013). Öğretmenlerin mesleki önceliklerinde öğrenci merkezli eğitim yaklaşımlarının yeri. *Milli Eğitim Dergisi*, 42(200), 5-27.
- Patton, M. Q. (2014). *Nitel araştırma ve değerlendirme yöntemleri* (M. Bütün & S. B. Demir, Ed. & Trans.). Pegem Akademi Yayınları.
- Ramirez, D., Hinojosa, C., & Rodríguez, F. (2014). Advantages and disadvantages of flipped classroom: Stem students' perception. In *ICERI2014 Proceedings: 7th International Conference of Education, Research and Innovation* (pp. 121-127). IATED.
- Rossett, A., & Frazee, R. (2006). *Blended learning opportunities*. American Management Association Special Report.
- Rudman, N. P. C. (2014). A review of homework literature as a precursor to practitioner-led doctoral research in a primary school. *Research in Education*, 91(1), 12-29. <https://doi.org/10.7227/RIE.91.1.2>
- Rutkowski, J., & Moscinska, K. (2013). *Self-directed learning and flip teaching: Electric circuit theory case study*. Paper presented at the 41st SEFI Conference, Leuven, Belgium.
- Santepeci, M., & Yıldız, H. (2014). Harmanlanmış öğrenme ortamlarının öğrencilerin derse katılım ve derse karşı motivasyonları üzerine etkisinin incelenmesi. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 15(1), 211-223.
- Seban, D., & Perdecı, B. (2016). Alt sosyoekonomik düzey bir ailede yetişen çocukların akademik başarıları ile yılmazlıkları arasındaki ilişki: Bir vaka incelemesi. *Eğitimde Nitel Araştırmalar Dergisi*, 4(3), 106-126.
- Sekin, V. (2023). *İlkokul 4. sınıf dinleme/izleme metinlerinin ters yüz öğrenme modeli kullanılarak dinleme/izleme becerisi üzerine etkisinin incelenmesi* (Thesis No. 773078) [Master's thesis, Fırat University]. Council of Higher Education National Thesis Center.
- Sever, G. (2014). Bireysel çalgı keman dersinde çevrilmiş öğrenme modelinin uygulanması. *Eğitimde Nitel Araştırmalar Dergisi*, 2(2), 27-42. <https://doi.org/10.14689/issn.2148-2624.1.3s2m>
- Shamsi, N. (2004). *Modern teaching of social studies*. Anmol Publications.
- Shillingstad, S. (2017). Flipped classroom: Overcoming fear of the flip. *Journal of Curriculum, Teaching, Learning and Leadership in Education*, 2(1), 36-42. <https://doi.org/10.32873/uno.dc.ctlle.02.01.1017>

- Smith, J. P. (2015). *The efficacy of a flipped learning classroom* (Publication No. 3719573) [Doctoral dissertation, McKendree University]. ProQuest Dissertations & Theses Global.
- Sontay, G., & Karamustafaoğlu, O. (2022). Harmanlanmış öğrenme modeli üzerine yayınlanan ulusal araştırmaların incelenmesi, *Ulusal Eğitim Akademisi Dergisi*, 6(2), 145-155. <https://doi.org/10.32960/uead.1119698>
- Söğüt, M. (2019). *Sosyal bilgiler dersi 5. sınıf etkin vatandaşlık öğrenme alanının ters yüz sınıf modeline göre işlenmesinin akademik başarıya etkisi* (Thesis No. 609291) [Master's thesis, İbrahim Çeçen University]. Council of Higher Education National Thesis Center.
- Staker, H., & Horn, M. B. (2012). *Classifying K-12 blended learning*. Innosight Institute.
- Stein, J., & Graham, C. R. (2014). *Essentials for blended learning: A standards-based guide*. Routledge Taylor & Francis Group. <https://doi.org/10.4324/9780203075258>
- Storer, D. A. (2016). The flipped classroom with limited internet access. In J. L. Moore & C. S. Lewis (Eds.), *The flipped classroom: Volume 1: Background and challenges* (pp. 17-27). American Chemical Society. <https://doi.org/10.1021/bk-2016-1223.ch003>
- Strayer, J. (2007). *The effects of the classroom flip on learning environment: A comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system* (Doctoral dissertation). The Ohio State University, Ohio.
- Strayer, J. (2012). How learning in an inverted classroom influences cooperation, innovation and task orientation. *Learning Environments Research*, 15(2), 171-193. <https://doi.org/10.1007/s10984-012-9108-4>
- Stringer, E. T. (2004). *Action research in education* (2nd ed.). Pearson Prentice Hall.
- Şengün, A. (2021). *İlkokul sosyal bilgiler dersinde oyunlaştırılmış ters yüz sınıf modelinin okuduğunu anlama ve motivasyona etkisi* (Thesis No. 708082) [Master's thesis, Bartın University]. Council of Higher Education National Thesis Center.
- Şen, H. Ş., & Gülcan, M. G. (2012). İlköğretim 4. ve 5. sınıflarda verilen ev ödevleri konusunda veli görüşleri. *Gazi Üniversitesi Endüstriyel Sanatlar Eğitim Fakültesi Dergisi*, 29, 29-41.
- Talan, T. (2018). *Dönüştürülmüş sınıf modeline göre e-öğrenme ortamının tasarımı ve modelin uygulanabilirliğinin değerlendirilmesi* (Thesis No. 534135) [Doctoral dissertation, İstanbul University]. Council of Higher Education National Thesis Center.
- Talbert, R. (2012). Inverted classroom. *Colleagues*, 9(1), 18-19.
- Talbert, R. (2017). *Flipped learning: A guide for higher education faculty*. Stylus Publishing.
- Taş, G., & Akoğlu, K. (2020). Sosyal bilgiler öğretiminde işbirlikli öğrenme yaklaşımının etkisi: Meta-sentez çalışması. *Türk Eğitim Bilimleri Dergisi*, 18(2), 956-983. <https://doi.org/10.37217/tebd.790160>
- Taşkın Serbest, M. (2023). *Ters yüz sınıf modeli ile tasarlanan ilkokul 2. sınıf hayat bilgisi derslerinin öğrencilerin eleştirel düşünme becerileri ve sınıf içi diyaloglar üzerindeki etkisinin incelenmesi* (Thesis No. 799238) [Master's thesis, Medeniyet University]. Council of Higher Education National Thesis Center.
- Topalak, Ş. (2016). *Çevrilmiş öğrenme modelinin başlangıç seviyesi piyano öğretimine etkisi* (Thesis No. 452188) [Doctoral dissertation, İnönü University]. Council of Higher Education National Thesis Center.
- Topdağ, D., & Çağlayan-Akay, E. (2024). Düşük sosyoekonomik statüye sahip öğrencilerin başarısını etkileyen faktörlerin belirlenmesi: Bayesyen model ortalama yaklaşımı. *EKOIST Journal of Econometrics and Statistics*, (40), 1-11. <https://doi.org/10.26650/ekoist.2024.40.1254248>
- Total, Ö., & Yazar, T. (2021). Flipped classroom improves academic achievement, learning retention and attitude towards course: A meta-analysis. *Asia Pacific Education Review*, 22(4), 655-673. <https://doi.org/10.1007/s12564-021-09706-9>

- Türkiye İstatistik Kurumu. (2023). *İstatistiklerle Aile*.
<https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Aile-2022-49683>
- Twigg, C. A. (2003). Improving learning and reducing costs: New models for online learning. *Educause Review*, 38(5), 28-38.
- Uçar, H., & Bozkurt, A. (2018). Dönüştürülmüş sınıf 2.0: Bilginin üretimi ve sentezlenmesi. *Eğitimde Nitel Araştırmalar Dergisi*, 6(3), 143-157.
- Uçaş, Ü. G. (2023). *Oyunlaştırılmış ters yüz sınıf modelinin ilkokul öğrencilerinin eleştirel düşünme eğilimlerine, problem çözme becerilerine ve fen öğrenme motivasyonlarına etkisinin incelenmesi* (Thesis No. 822649) [Master's thesis, Mersin University]. Council of Higher Education National Thesis Center.
- Van Voorhis, F. L. (2004). Reflecting on the homework ritual: Assignments and designs. *Theory Into Practice*, 43(3), 205-212. https://doi.org/10.1207/s15430421tip4303_6
- Warton, P. (2001). The forgotten voices in homework: Views of students. *Educational Psychologist*, 36(3), 155-165. https://doi.org/10.1207/S15326985EP3603_2
- Xu, J. (2005). Purposes for doing homework reported by middle and high school students. *The Journal of Educational Research*, 99(1), 46-55. <https://doi.org/10.3200/JOER.99.1.46-55>
- Yang, C. C. R. (2017). An investigation of the use of the "flipped classroom" pedagogy in secondary english language classrooms. *Journal of Information Technology Education: Innovations in Practice*, 16, 1-20. <https://doi.org/10.28945/3635>
- Yarım, M. A., Ada, Ş., Morkoç, S., & Doğan-Kurt, S. (2023). The effect of flipped classroom model on student achievement and motivation. *Interactive Learning Enviroments*, 1(12), 5600-5611. <https://doi.org/10.1080/10494820.2023.2220751>
- Yelgün, A., & Karaman, İ. (2015). Düşük sosyoekonomik düzeydeki mahallede bulunan bir ilköğretim okulunda akademik başarıyı düşüren faktörler nelerdir?. *Eğitim ve Bilim*, 40(179), 251-268. <https://doi.org/10.15390/EB.2015.2331>
- Yıldırım, A., & Şimşek, H. (2016). *Sosyal bilimlerde nitel araştırma yöntemleri* (10th ed.). Seçkin Yayınları.
- Yıldız, Y. (2017). *Flüt eğitiminde ters yüz öğrenme modelinin öğrencilerin akademik başarıları, motivasyonları ve performansları üzerine etkisinin incelenmesi* [Doctoral dissertation]. Marmara University]. Council of Higher Education National Thesis Center.
- Yılmaz, K., & Çolak, R. (2012). Sosyal bilgiler öğretiminde kavram haritaları kullanımının öğrencilerin tutum, akademik başarı ve bilgilerinin kalıcılık düzeylerine etkisi. *Cumhuriyet Uluslararası Eğitim Dergisi*, 1(1), 1-16.



The process of writing fairy tale parodies with a process-genre-based approach for elementary school students: a mixed methods study

Seval Çiğdemir ¹

Abstract

Teaching writing is an ever-relevant, challenging, and time-consuming process for educators. This study, which offers an alternative for acquiring skills like creative writing, aims to determine the effects of the process-genre based writing approach on fifth graders' attitudes toward writing and writing anxiety. The mixed research design utilizes both qualitative and quantitative data obtained from 75 students. The quantitative data were collected using a writing attitude and writing anxiety scale from two classes with similar structures, while the qualitative data were gathered solely from the experimental group through a structured interview form. As a result, it was determined that the process-genre based writing approach led to a significant and positive change in students' attitudes toward writing and their levels of writing anxiety. Moreover, the qualitative data revealed that students believed their critical thinking and creative skills had developed. Sharing their written products, showing a willingness to write, and enjoying the writing process were among the positive affective responses related to the intervention. However, a limited number of students continued to exhibit negative reactions such as difficulty, avoidance, anxiety, and shyness. It is recommended that future studies conduct in-depth research specifically examining the causes of persistent anxiety and negative attitudes.

Keywords

Process-genre based writing
Fairy tale parody
Mixed method
Elementary school

Article Info

Received: 02.19.2024
Accepted: 05.06.2025
Published Online: 10.24.2025

DOI: 10.15390/ES.2025.2470

Introduction

Although writing was originally defined as “the expression of emotions and thoughts using symbols” (Akyol, 2000), its meaning has evolved and broadened over time into a two-dimensional concept encompassing both functional (technical) writing and creative writing (Burns-Lowe, 1966, as cited in Başkök, 2012). In its current sense, the act of writing is defined as a series of complex actions that require individual effort and a rich background, actively engaging higher-level cognitive skills and including language rules, problem-solving abilities, and evaluation processes (Akyol, 2000; Demirel & Şahinel, 2006; Sharples, 1999; Temizkan & Yalçınkaya, 2013; Urgan, 2007). Since differentiating, organizing, and integrating these complex actions require careful mental effort, Ünalın (2006) defined the writing instruction process as also a process of teaching thinking. Considering its impact on students' thinking skills, the importance of writing instruction has increased, and various perspectives

¹ Ministry of National Education, Türkiye, sevalcigdmr@gmail.com

on the appropriate instructional approach have emerged (Göçer & Kurt, 2022). The evolution of writing instruction approaches from the past to the present is presented in Figure 1.

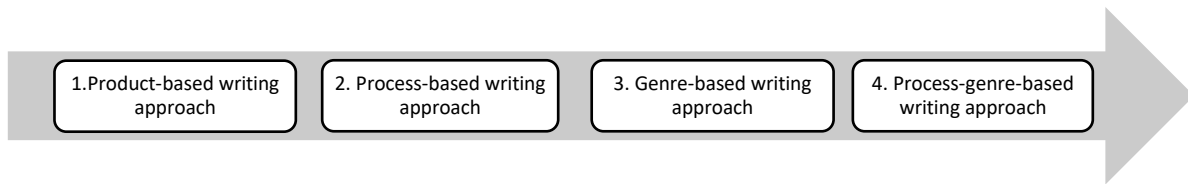


Figure 1. Writing Approaches

According to Figure 1, the product-based writing approach—placed first and known as the traditional method—is a formalistic approach that emphasizes organizing information and transferring it onto paper rather than generating original ideas (Maltepe, 2006; Özdemir, 2019; Tabak & Göçer, 2013). Examples of this approach include writings related to specific days and weeks, explanations of proverbs and idioms, and composition exercises.

In response to criticisms that the product-based approach neglects thinking and creativity, researchers advocating that the writing process should be sequential, continuous, and comprised of interconnected activities introduced the process-based writing approach (Tavşanlı & Kaldırım, 2020). According to this approach, there are distinct processes that must be carried out before and during the writing process. By incorporating stages such as rethinking, reviewing, editing, and revising, an individual's creative writing skills can be enhanced (Bayat, 2014; Oral, 2008).

As an alternative to the process-based approach, the genre-based writing approach was developed. In this approach, the development of writing skills is based on different text types, and systematic guidance is provided to the student for each text type so that they can produce texts within their contextual framework (Akbaş, 2020; Oğuz & Doğan Kahtalı, 2020). In the genre-based approach, understanding text types is fundamental, and the teacher's role is to support and guide the student for each genre within the classroom (Hyland, 2003; Yıldız, 2019).

The process-genre based approach—a combination of product-, process-, and genre-based writing approaches—is a new model that synthesizes the strengths of the preceding writing methods (Badger & White, 2000). For this method to be effective, students must have knowledge of text types, be able to synthesize and present information, and possess language usage skills (Göçer & Kurt, 2022). Although different researchers may refer to the implementation stages of the process-genre based approach using various terms (Salim et al., 2016; Özdemir, 2019), they generally consist of the following stages (Badger & White, 2000):

1. Determining the text type (situation)
2. Determining the purpose of writing (purpose)
3. Determining the form or structure of the text (form)
4. Organizing activities appropriate for process-based writing (planning)
5. Producing the final product (draft)

The process-genre based writing approach, which forms the framework of the present study, can be utilized in creative writing activities. Creative writing—defined as producing an original text by blending imagination and thoughts (Aşlıoğlu, 1993; Öztürk, 2007)—is regarded as one of the most important skills a child can learn (Arthur & Zell, 1996). Another distinguishing feature of creative writing compared to other writing forms is its pre-writing stage, which comprises 80% of the entire writing process (Personke & Johnson, 1987, as cited in Öztürk, 2007). Creative writing is process-based, given its characteristics such as pre-writing, generating original ideas, organizing, flexibility, and fluency (Maltepe, 2006); and it also aligns with the genre-based writing approach through the use of narrative texts like fairy tales and stories (Akyol, 2006; Aşlıoğlu, 1993; Cemiloğlu, 2001; Sever, 2004). In

the context of creative writing, fairy tales—which are the most frequently referenced genre in children’s literature—emerge as a suitable teaching material (İşnas, 2011). Although the term “fairy tale” entered our language only in the last century, fairy tales are as old as human history. In addition to facilitating cultural transmission, they can be used as an educational tool and offer significant contributions to mother tongue education (Dilidüzgün, 1994; Gürel et al., 2007). This is because the expressions and word patterns found in fairy tales enhance vocabulary and improve students’ ability to understand figurative expressions such as proverbs and idioms (Gürel et al., 2007). Boratav (2002) considers the fairy tale as the genre that encapsulates the agility, dexterity, and richness of the native language and as the first genre to be introduced. Rather than stemming from a specific starting point, fairy tales are a collective product of the people and, having been transmitted orally across generations, have been recorded in writing over time to reduce the risk of distortion and loss (Boratav, 2002; Degh, 2006). Thus, fairy tales have the capacity to address all four fundamental language skills (Akin et al., 2022). Alongside written fairy tales, “literary fairy tales” have emerged—artistic texts created by authors using their imagination (Oğuzkan, 2013). The evolution of children’s literature, which encompasses both classic and literary fairy tales, has paralleled the development and transformation of fairy tales. Because fairy tales enable children to learn almost unconsciously, allow adults to enter their imaginative worlds, and are engaging and entertaining, they are frequently employed as a genre in education (Kasımoğlu, 2017; Rahman, 2017). Moreover, when used deliberately, fairy tales play an important role in listening, speaking, reading, and writing instruction (Dilidüzgün, 1994; Gürel et al., 2007; Yavuz, 2013). Dilidüzgün (1996) has offered suggestions for the educational use of fairy tales in Turkish lessons, as shown in Figure 2.



Figure 2. The Use of Fairy Tales in Turkish Lessons According to Dilidüzgün (1996)

One of the methods proposed in Figure 2 for using fairy tales is the creation of fairy tale parodies, which particularly reflects the postmodernism movement that emerged in the 1970s (Ulu Aslan, 2018). Rather than watching a product fade into obscurity, the postmodernist idea of critiquing and altering a product for reuse has influenced fairy tales, manifesting itself as fairy tale parodies (Özen, 2023). With a critical perspective toward fairy tales, this method emerged in the early 20th century under the influence of feminism and similar movements, leading to an anti-fairy tale discourse. By parodying fairy tales such as *Little Red Riding Hood*, *Snow White*, and *Cinderella*—stories where the main character is female yet narrated through a male-dominated perspective—a critical and questioning viewpoint has been established (Ağvan & Asutay, 2018). From the perspective of children’s literature and education, fairy tale parodies benefit children by shifting them from passively reading and consuming a text to actively playing with and modifying it, thereby fostering a more productive role (Sayılğan & Cıvaş, 2021). In light of this, it is believed that through well-planned interventions, students’ critical thinking and creative writing skills can be enhanced.

Due to its inherent challenges, creative writing is an area that many students tend to avoid (Ungan, 2007). Rigid rules for written expression and poorly structured writing activities—where planning is solely conducted by the teacher—are among the reasons why students remain distant from

creative writing (Calp, 2013; Koçyiğit & Sefer, 2005). Moreover, due to its structural complexity and the insufficient knowledge of appropriate methods and techniques, negative attitudes toward writing and writing anxiety are commonly observed among students (Taşkın & Karakuş Tayşi, 2018). Although anxiety can enhance motivation when it is at a moderate level (Tekindal, 2015), when it reaches an undesirable level it negatively affects concentration and causes feelings of sadness, distress, and tension (Cüceloğlu, 2017). Writing anxiety—defined as the fear or apprehension an individual experiences in situations requiring writing (Fisher, 2017)—often leads students to repeatedly review, get caught up in unnecessary details, use an artificial writing style, and fail to focus on the purpose of writing; at more advanced levels, it may even result in sweating, palpitations, and physical symptoms (Aşılıoğlu & Özkan, 2013). When cognitive processes and behaviors are added to this emotional problem, the concept of “attitude” emerges (Cüceloğlu, 2003). Similarly, Peker et al. (2021) stated that attitude comprises three dimensions— affective, cognitive, and behavioral. Defined as the predisposition an individual forms based on prior knowledge and experiences regarding a situation, subject, or object (Baysal & Tekarslan, 2004; Temizkan & Sallabaş, 2009), attitude is regarded as a significant force governing a person’s behavior (Baysal & Tekarslan, 2004). Therefore, considering its potential to affect the educational process both positively and negatively, it is crucial that students in the early years of schooling develop a positive attitude toward writing (Susar Kırmızı & Beydemir, 2012; Yıldız & Kaman, 2016). In particular, creative writing activities—which yield original, fluent, and attention-grabbing texts rather than dull and repetitive ones—serve the purpose of fostering a positive attitude toward writing among students (Maltepe, 2006).

In the literature, studies examining creative writing, writing anxiety, and attitudes toward writing have been encountered (Maltepe, 2006; Tiryaki, 2012; Wray, 1993). These studies have reported findings indicating frequent issues such as incoherent expression, punctuation errors, and spelling mistakes (Ayyıldız & Bozkurt, 2006; Calp, 2013; Özbay, 1995). Another notable finding is that most studies on creative writing have focused on middle school, high school, and higher education levels (Albertson et al., 2001; Avcı, 2013; Baki, 2019; Bilgili & Kana, 2018; Conroy et al., 2009; Korkmaz, 2015; Mert, 2014; Temizkan, 2011). At the elementary level, studies have generally been based on measuring writing skills and scoring student products (Bilican Demir & Yıldırım, 2019; Özbay, 1995). In recent years, there has been an increasing focus in the literature on developing and adapting scales that encompass affective characteristics and relate to attitudes toward writing or writing anxiety at the elementary level (Göçer, 2014; Gökçe, 2020; Katrancı & Temel, 2018; Susar Kırmızı, 2008; Tavşanlı et al., 2019; Türkel & Çetinkaya, 2020; Türkyılmaz, 2021). Both national and international studies indicate that writing skills are neglected in schools, the pre-writing phase in writing activities is not given sufficient importance, students are not actively engaged in the process, and teachers lack adequate knowledge about the creative writing process (Aşıkcan & Pilten, 2016; Çiğdemir, 2022; Koçyiğit & Sefer, 2005; National Commission, 2006).

Considering all these issues, particularly at the elementary level, there is a clear need for a study that, based on the classic fairy tales with which children are very familiar, aims to reduce writing anxiety and foster a positive attitude toward writing without the pressure of evaluation. To this end, a series of activities has been designed involving four selected classic fairy tales that are redesigned through planned activities based on the process–genre based writing approach, culminating in the creation of fairy tale parodies. The study aims to examine the effect of these activities on students’ attitudes toward writing and writing anxiety, and seeks to answer the following questions:

- What is the effect of the process–genre based writing approach combined with the fairy tale parody creation process on elementary students’ attitudes toward writing?
- What is the effect of the process–genre based writing approach combined with the fairy tale parody creation process on elementary students’ writing anxiety?
- What are the views of elementary students regarding the process–genre based writing approach combined with the fairy tale parody creation process?

Method

Research Model

The study was designed according to an embedded mixed methods design, which integrates both qualitative and quantitative research findings (Greene, 2007). This design is employed when the available dataset is insufficient or when different situations cannot be richly depicted. The present study was structured based on the most commonly used approach of embedding qualitative data within a quasi-experimental design.

Sample

This study was conducted with fourth-grade elementary school students attending a public school in Ankara during the 2022–2023 academic year. The study utilized a convenience sampling technique. In this sampling method, voluntary and readily available participants are selected for inclusion in the study (Creswell, 2005). To compare the academic achievement levels of the classes forming the experimental and control groups, e-school report card averages were examined, and two sections with similar achievement levels were selected—one as the control group and one as the experimental group. The averages for Life Knowledge, Mathematics, and Turkish for both groups are presented in Table 1.

Table 1. Course Averages of the Sample Group

	N	Life Knowledge ($\bar{X}$)	Mathematics ($\bar{X}$)	Turkish ($\bar{X}$)
Experimental	39	2.76	2.46	2.84
Control	36	2.80	2.69	2.83

According to Table 1, the averages for Life Knowledge (experimental = 2.76, control = 2.80), Mathematics (experimental = 2.46, control = 2.69), and Turkish (experimental = 2.84, control = 2.83) are very similar for both groups, indicating that they are academically comparable. The demographic characteristics of the students are provided in Table 2.

Table 2. Sample Group

	Gender	Frequency (F)	Percentage (%)
Experimental Group	Girl	17	43,58
	Boy	22	56,41
	Total	39	100
Control Group	Girl	15	41,66
	Boy	21	58,33
	Total	36	100

According to Table 2, in the experimental group, 43.58% of the students are girls and 56.41% are boys, while in the control group, 41.66% are girls and 58.33% are boys.

Data Collection Instruments

In the study designed according to an embedded mixed methods design, two different methods were employed to collect the data. For the collection of quantitative data, two different measurement instruments were utilized. The first instrument is the “Writing Anxiety Scale” for elementary school students developed by Katrancı and Temel (2018). This scale consists of 4 factors and 20 items and explains 58.36% of the variance. The Cronbach Alpha internal consistency coefficients for its sub-dimensions were determined as follows: .77 for “sharing”, .86 for “writing process”, .75 for “evaluation”, and .74 for “prejudice”. The overall reliability coefficient for the scale is .91.

The other scale used in the quantitative phase of the study is the “Attitude Toward Writing Scale,” adapted into Turkish by Tavşanlı et al. (2019). This unidimensional scale comprises 18 items and explains 32% of the total variance, with a reliability coefficient of .86.

For the qualitative data, a semi-structured interview form was used. This type of form predominantly consists of open-ended questions and, since it is administered with pre-prepared questions, it provides the researcher with comparable and systematic information (Yıldırım & Şimşek, 2004). While preparing the interview form, a literature review was conducted to determine questions that would support the quantitative data obtained from the scales, resulting in a draft form. The initial 10-question draft was then reviewed by 2 field experts and 3 classroom teachers; as a result, 1 question was removed because it did not fully serve its purpose, and another question was eliminated due to potential conceptual confusion. The final draft was tested for clarity and understandability by having 5 students from another class complete it. Following the preliminary interviews, 3 additional questions were removed because they did not function adequately. Ultimately, a 5-question interview form was finalized and administered to the students in the experimental group after the experimental process. The interview form is presented in Figure 3.

Interview Questions
1. What was the most enjoyable part of the activities for you? Why?
2. If you had the chance to change any part of the activities, what would you change? Why?
3. If you had to explain these activities to your family or friends, how would you express your feelings and thoughts?
4. Would you like to do these activities more frequently in writing exercises?
5. Do you think these activities have provided you with any benefits?

Figure 3. Interview Form Questions

Procedure

In the embedded mixed-methods design, quantitative and qualitative data can be collected sequentially or simultaneously. Considering the nature of the present study and the sample group, a sequential method was deemed appropriate. The study was organized following the research framework illustrated in Figure 4.

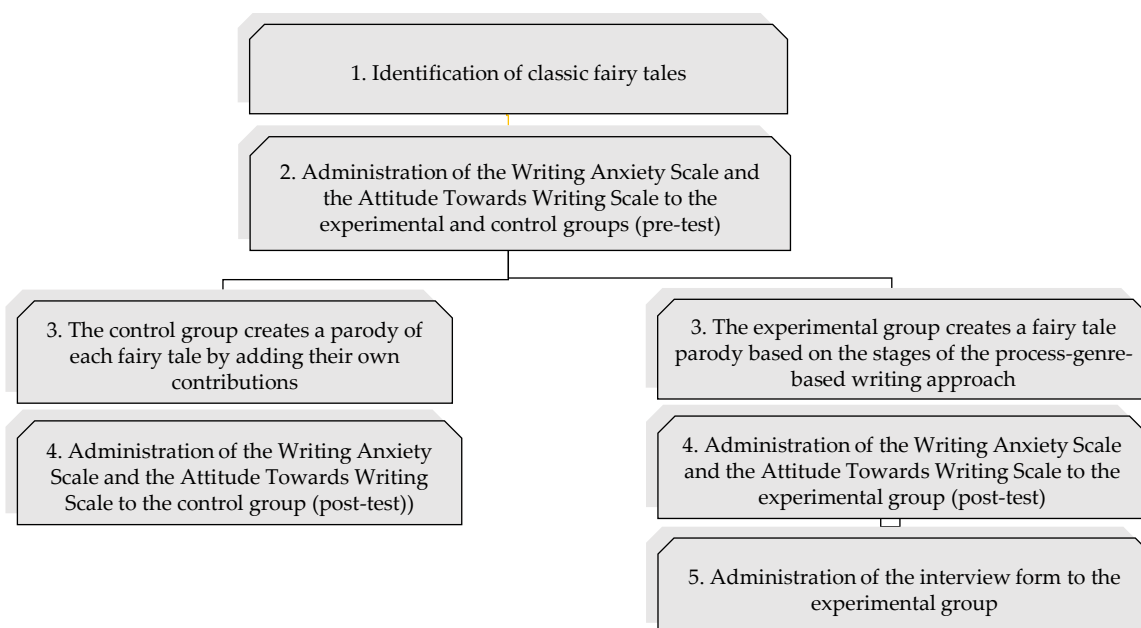


Figure 4. Data Collection Process

As seen in Figure 4, the study began with the collection of quantitative data. For this purpose, the "Writing Anxiety Scale" and the "Attitude Towards Writing Scale" were administered to both the control and experimental groups. The scales were completed in a classroom setting with all students at the same time, and the process took a total of 40 minutes. After the pre-tests were completed, the implementation phase began.

For the experimental group, activities were conducted based on the process-genre approach to writing. In contrast, students in the control group were asked to reinterpret the same classic fairy tales using their creativity without any additional lesson plan. After completing the five-week lesson plans, the scales were re-administered to both groups, and the post-test scores were calculated.

Process-Genre-Based Writing Activities Process

According to Badger and White (2000), the process-genre approach to writing consists of the following stages: context, purpose, form, planning, drafting, and publishing. The activities conducted with the experimental group were structured in six stages under the guidance of this approach.

1. Context

In the context stage, students need to determine which writing type to use based on their given situation, and the teacher should present a scenario to them. For this purpose, previously selected classic folk tales were used. The reason for using classic folk tales stems from the nature of the writing process. Among the four fundamental language skills, writing is the most challenging and the last to be acquired (Sharples, 1999; Ungan, 2007), making it a skill that students often develop negative attitudes toward.

To reduce students' negative biases, fundamental teaching principles such as "from the known to the unknown" and "from the near to the far" were followed, starting with familiar fairy tales. Since the participants were at the primary school level, the selection of appropriate text types was carried out by the researcher. Students were informed that they would modify certain aspects of fairy tales and create their own versions over the course of four weeks. Additionally, explanations and activities were provided to answer the questions: "What is a fairy tale?", "What are the characteristics of fairy tales?", and "What are the types of fairy tales?". The book *Masal Atölyesi* (Fairy Tale Workshop) by Mavisel Yener was used as a reference for organizing the content and activities.

2. Purpose

In this stage, where the purpose of the student's written text and its intended function are explained, students were given information about parody fairy tales and provided with examples. The books *Pamuk Kalpli Prens ve Yedi Cüceler* (The Cotton-Hearted Prince and the Seven Dwarfs) and *Sindirella'nın Bilmecesi* (Cinderella's Riddle), which were produced as part of the "Equal Tales" project in collaboration with Odeabank and Can Publishing, were read interactively. Following this, students watched videos of these fairy tales (Odeabank, 2023). This process provided students with clues to help them develop ideas for their own fairy tale parodies. Additionally, the reasons for reading and watching these fairy tales, why they had been altered, and why students would undergo a similar process were explained in a way that matched their level of understanding.

3. Form

This stage aimed to teach the subcategories, rules, and style of the text type being introduced, focusing specifically on fairy tales. To explain the structure of fairy tales, the elements of the story map adapted into Turkish by Akyol (1999) were used. The template shown in Figure 5 was simplified to suit the primary school level.

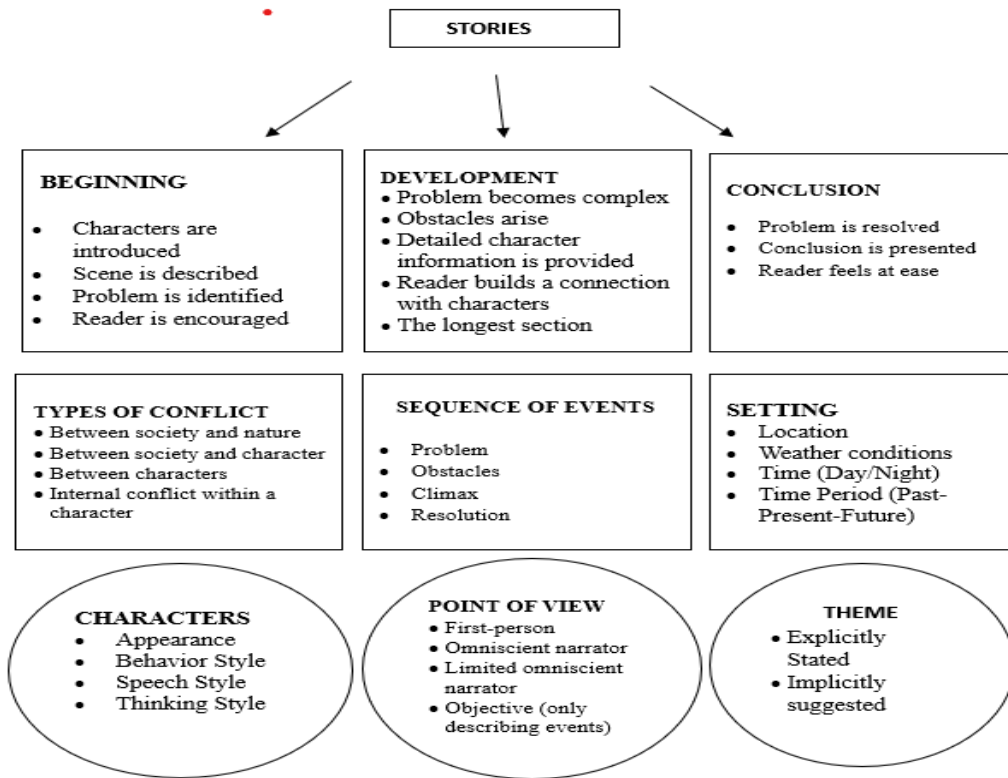


Figure 5. Story Map

After completing interactive reading activities for the four classic fairy tales studied, analyses were conducted using the story map under the guidance of the teacher. An example of story analysis applied to all fairy tales in the process is presented in Figure 6.

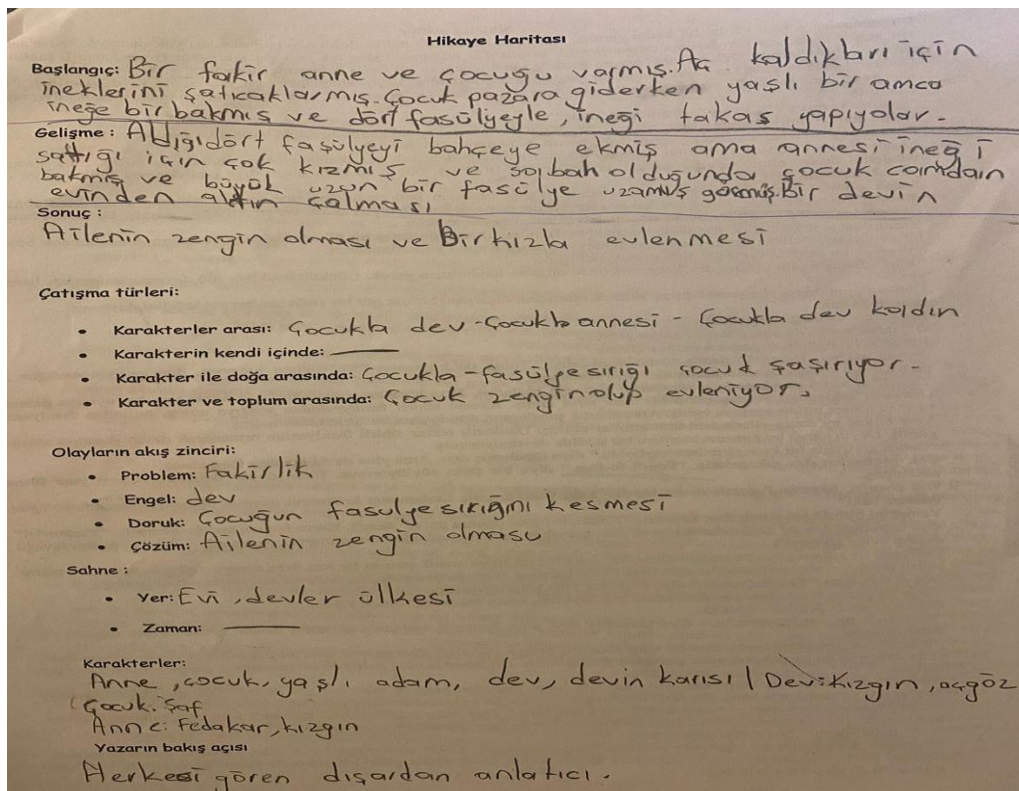


Figure 6. Story Analysis Activity

Figure 6 illustrates the analysis of the fairy tale *Jack and the Beanstalk* by a student. At this stage, students first worked individually and then engaged in interactive analysis with the whole class under the teacher's guidance.

4. Planning

This stage involved students engaging in various writing-related activities and exercises, repeated throughout the process for each fairy tale. Activities such as character creation, changing perspectives, designing time and setting, and constructing a plot were carried out to prepare students for their own writing. Sample activities were included in the weekly lesson plans.

5. Drafting

The phase where students performed their writing activities was structured according to the framework shown in Figure 6.

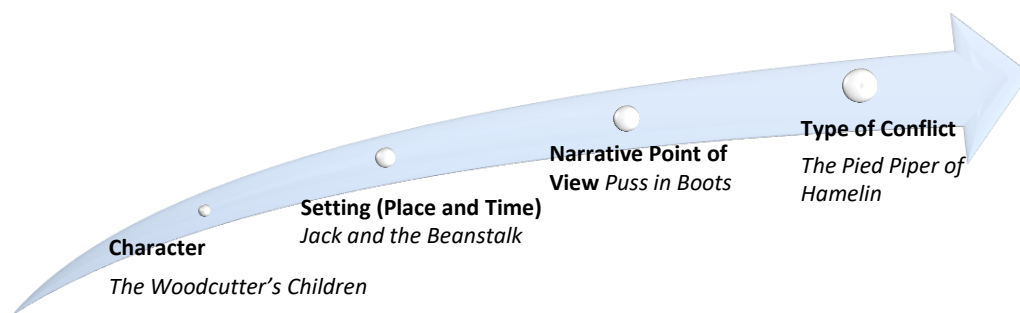


Figure 7. Story Adaptation Process

As seen in Figure 7, the first story selected in the process was *The Woodcutter's Children*. After completing the reading and analysis, students redesigned the characters from their own perspectives. In the second phase, the story *Jack and the Beanstalk* was analyzed, and students reinterpreted it by altering the elements of setting and time. For the third story, *Puss in Boots*, the narrative point of view was changed, and finally, for *The Pied Piper of Hamelin*, a parody was created by modifying the type of conflict.

6. Publishing

At this stage, the parody fairy tales created by the students were read aloud to their classmates and displayed on the classroom bulletin boards. The evaluation of student work was deliberately avoided in this phase. The primary goal of these activities was to foster a positive attitude toward writing without the concern of assessment or grading.

During the research process, weekly lesson plans were designed in a structured manner for each fairy tale. Below is an example of a weekly plan:

Sample Weekly Plan

Objective: Character Creation

Fairy Tale: *The Woodcutter's Children*

Duration: 6 class periods (240 minutes)

Context + Purpose: 40 min

The fairy tale *The Woodcutter's Children* was read aloud interactively by the teacher, following the principles of interactive reading. Students were encouraged to share their thoughts on the characters, messages conveyed, and their overall impressions of the story.

Structure: 40 min

A written copy of the fairy tale was distributed to the students. Using a given template, they identified and wrote down key story elements.

Planning: 40 min

After analyzing the story, students were informed that this lesson would focus on the "character" element. Activities related to character creation, as shown in Figure 8, were implemented.

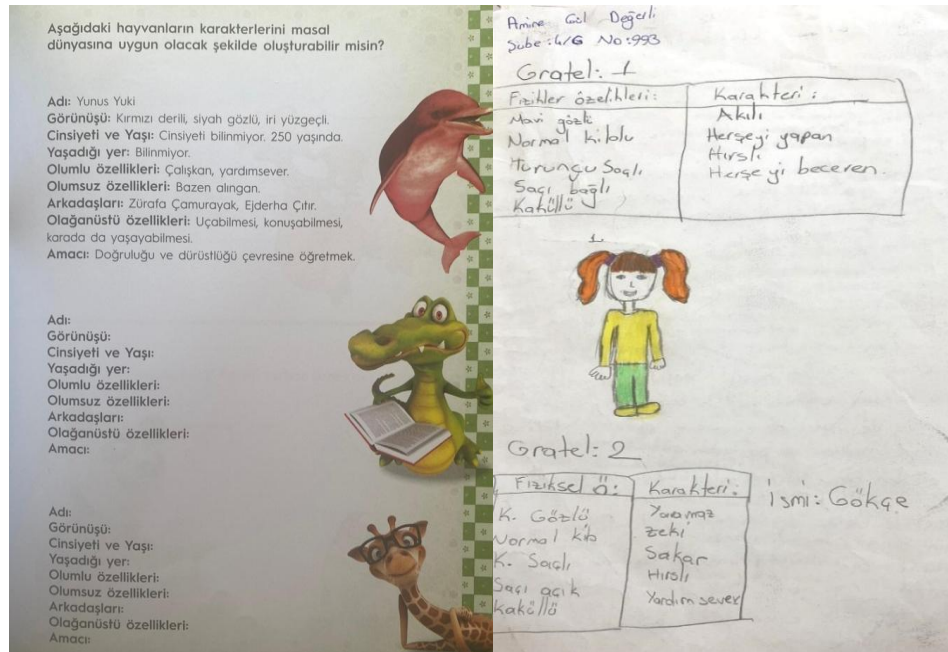


Figure 8. "Character" Creation Activities

Through the activities presented in Figure 8, students were guided in stimulating their imagination and creating a new character.

Drafting: 40 + 40 min

Students were asked to replace a character from *The Woodcutter's Children* with a character of their own design and rewrite the story with their new interpretation. Examples of student work related to this activity are provided in Figures 9 and 10.

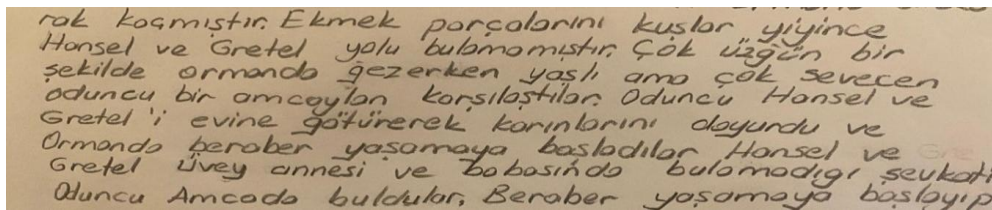


Figure 9. Character Change 1

In the example shown in Figure 9, the student replaced the "evil-hearted witch" with a "kind-hearted woodcutter uncle," reinterpreting the story accordingly.

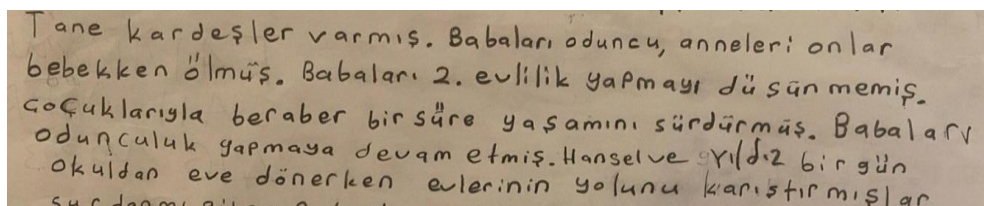


Figure 10. Character Change 2

In the example in Figure 10, the student altered the father's role, transforming him from a neglectful and naive character who marries an evil stepmother into a good father who chooses to live with his children.

Publishing: 40 minutes

Voluntary students read their written works to their classmates and exchanged ideas. As outlined in the sample plan, the same stages were repeated for other fairy tales, each time focusing on a different story element.

Jack and the Beanstalk (Setting)

Interactive reading and story mapping activities for "Jack and the Beanstalk" were conducted as in the previous week. Students were informed that they would be working on the "setting" and "time" elements, and the following activities were organized.

Imagine there is a cabinet full of peculiar worlds. Choose one of these worlds that you placed inside and imagine it.

Where is it on the map? Is it by the ocean?

Who lives there?

What is around it?

What sounds can be heard in its surroundings?

What scents come from its surroundings?

What should this world be called?

What is the most beautiful aspect of this world, in your opinion?

Who governs this world?

Figure 11. Space (Scene) Design Activity

After completing the activity in Figure 11, students were asked to change the "place" and "time" elements in the fairy tale *Jack and the Beanstalk* with their own designs and reinterpret the story. A section of student work is presented in Figure 12.

Bir zamanlar 1869'da galaxy'de yaşayan bir yoksul aile varmış. İnekleri, süt beyazını satmak zorundadırlar. Onu satıp 5 tane fasulye almışlar.

Figure 12. Time and Space Change

In Figure 12, the student added a historical date that does not exist in the original fairy tale and set the setting as the "galaxy," reinterpreting the story.

Puss in Boots (Point of View)

The interactive reading and story map creation activities for *Puss in Boots* were carried out as in the previous week. The following activities were organized to develop the "author's point of view" in a creative writing piece.

Try to See the World Through the Eyes of Animals. You'll Find It Interesting If you were hanging upside down like a bat, how would you see the world? What would happen? If you had a neck as long as a giraffe's, what challenges would you face? If you had a trunk like an elephant, what challenges would you face?	Try rewriting the following text so that it is told from the perspective of a "crow" or a "fox." From the Fox's Perspective One day, I caught the delicious scent of cheese and followed it to find a crow perched on a branch with a large piece in its beak. I knew I had to come up with a plan. Standing beneath the tree, I spoke in my sweetest voice: "Good morning, dear Crow! How magnificent you look today! Just look at those shining feathers. I can only imagine how beautiful your voice must be. If it is as lovely as your appearance, then surely, you are the most marvelous bird in this forest!" Flattered by my words, the crow wanted to prove itself. As soon as it opened its beak to let out a caw, the cheese slipped and fell. In an instant, I grabbed it and swallowed it whole. Then, with a sly grin, I turned to the crow and said: "Dear Crow, never forget this: Every flatterer praises for their own gain."

Figure 13. "Point of View" Activity

Activities in Figure 13 were conducted with students to help them understand the concept of perspective in a narrative text. Following this, students were asked to reinterpret and rewrite the fairy tale *Puss in Boots* by changing the "author's point of view."

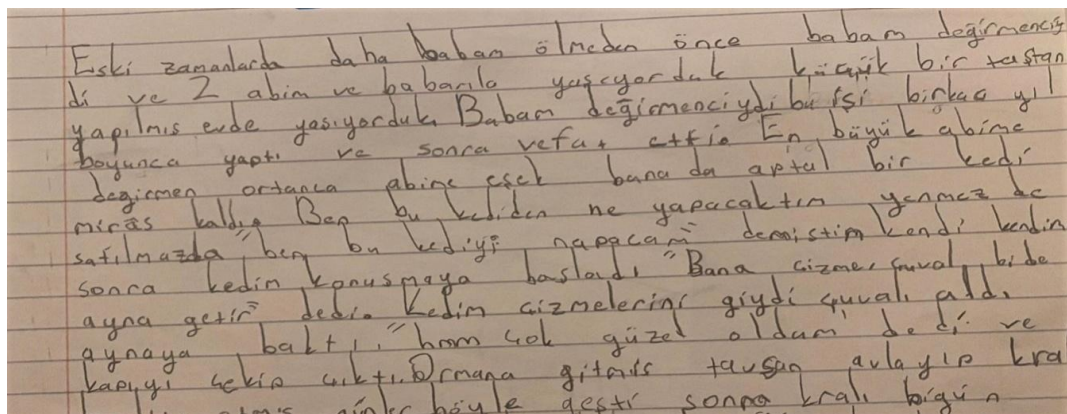


Figure 14. Change of Perspective

In Figure 14, the student restructured and narrated the fairy tale from the point of view of the miller's youngest son, who is the owner of the cat.

The Pied Piper of Hamelin (Conflict)

Interactive reading and story mapping activities for *The Pied Piper of Hamelin* were conducted similarly to the previous week. Examples of activities related to different "types of conflict" in a creative writing piece are shown in Figure 15.

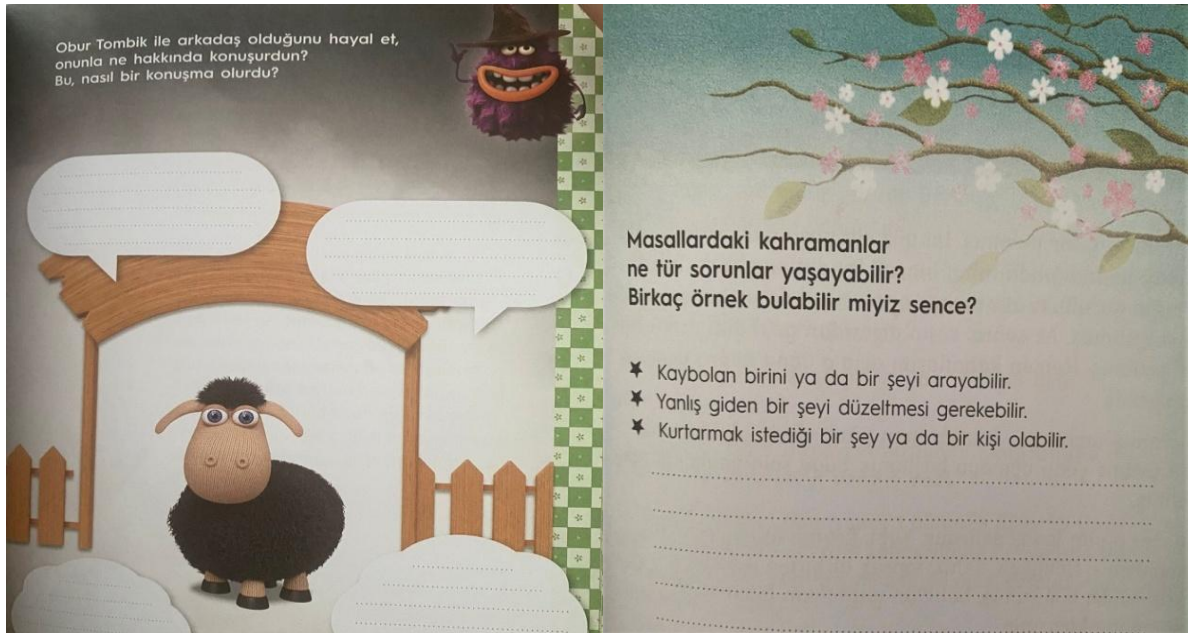


Figure 15. "Conflict" Activities

After completing activities related to the conflict creation process, students were asked to rewrite *The Pied Piper of Hamelin* by changing the "type of conflict" in the story.

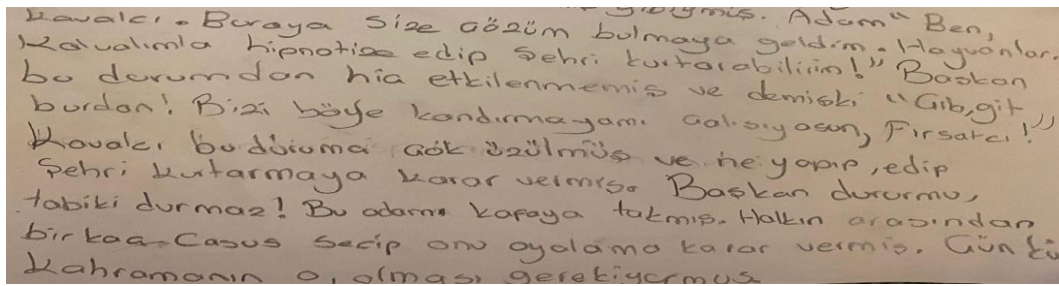


Figure 16. Conflict Change 1

In Figure 16, the student altered the original story by changing the initially cooperative relationship between the piper and the mayor, portraying the mayor as jealous and greedy to create a new conflict.

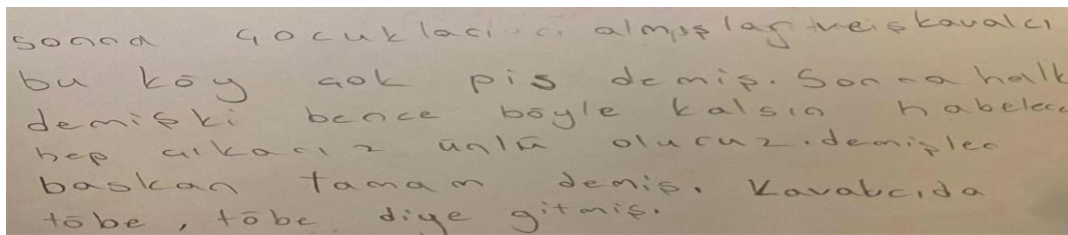


Figure 17. Conflict Change 2

In Figure 17, the student redesigned the story by altering the original conflict between the townspeople and the piper at the end of the tale.

Data Collection Process

After completing the experimental study, which involved rewriting fairy tales by altering them for the control group and using the process-genre approach for the experimental group, data were collected from the experimental group students through a structured interview form. The research was

designed based on a basic interpretive approach, aiming to examine participants' perceptions through research questions and present them as a meaningful whole (Merriam, 2013).

To ensure ethical principles, students' names were coded as Ö1, Ö2, etc., in the interviews. After the quantitative phase was completed, qualitative data were collected by gathering students in the classroom, distributing interview forms, and providing necessary instructions. The data collection process took approximately 40 minutes.

Data Analysis

The quantitative data collected through the "Attitude Toward Writing" and "Writing Anxiety Scale" were analyzed using the SPSS statistical package. The arithmetic mean, standard deviation, and t-test values of the test scores were calculated. The significance level for statistical analyses was set at .05.

To analyze the qualitative data, content analysis was conducted. To ensure reliability, an expert in the field was consulted, and the interview forms were transcribed and coded by two researchers. To determine inter-coder reliability, the criterion proposed by Miles and Huberman (1994) was used, and the inter-coder agreement coefficient was found to be 91%, which is considered an acceptable value. Throughout the coding process, discussions and information exchanges were conducted, new codes were added when necessary, and conflicting codes were adjusted. After completing the coding process, sub-themes were identified, leading to the formation of main themes.

Table 3. Presents an example of the coding process for writing fairy tale parodies using a process-genre approach

Codes	F	Students	Description
Entertaining	30	Ö2, Ö3, Ö5, Ö6, Ö7, Ö9, Ö10, Ö11, Ö12, Ö14, Ö15, Ö16, Ö17, Ö19, Ö20, Ö21, Ö22, Ö23, Ö24, Ö25, Ö26, Ö28, Ö30, Ö31, Ö33, Ö34, Ö36, Ö37, Ö38, Ö39	"I had so much fun while doing (any part of the activity)."
Challenging	10	Ö2, Ö4, Ö5, Ö9, Ö10, Ö15, Ö19, Ö21, Ö24, Ö31, Ö32	"It was exhausting," "I couldn't do it."
Creative	10	Ö1, Ö13, Ö21, Ö22, Ö25, Ö26, Ö27, Ö34, Ö35, Ö38	"Imagining," "Making it funny," "Changing it."
Thought-provoking	5	Ö8, Ö18, Ö3, Ö27, Ö29	"I realized," "It caught my attention," "I was surprised."

Table 3 contains the researcher's notes regarding the coding process. The explanation section includes examples of which concepts or expressions were coded and to which sub-theme each code belongs.

Reliability of the Study

To enhance the reliability of the study, quantitative data was supported by qualitative data. While selecting the scales for quantitative data, reliability and validity coefficients were taken into account. During the implementation of the scales, students were given preliminary information and sufficient time. Direct quotations were used in qualitative data to ensure the accuracy of findings. To establish reliability in qualitative data, inter-coder agreement was examined. In line with recommendations from the literature, discussions were held to resolve differences in coding, and a consensus was reached (Johnson & Christensen, 2019; Shenton, 2004). The methodology, data collection process, and data analysis stages were reported in detail to ensure the secure use of findings in future research (Creswell, 2005).

Results

This section presents the findings obtained from the research.

Quantitative Results

Before evaluating the writing attitude scores, skewness and kurtosis coefficients were examined to determine whether the data showed a normal distribution. The analysis results are presented in Table 4.

Table 4. Skewness and Kurtosis Analysis Results

Variable	N	Min.	Max.	Skewnes	Kurtosis	Sd
Attitude Pre-Test	75	32	48	.04	-.06	3.25
Attitude Post-Test	75	32	54	.72	1.07	3.97

According to Table 4, since the multivariate kurtosis value falls between -2 and +2, the dataset is determined to have multivariate normality (Karagöz, 2017). To assess the impact of the process-genre-based writing approach and fairy tale parody creation activities on writing attitude, an independent t-test analysis was conducted for the pre-test and post-test scores. The pre-test scores of students' writing attitudes are presented in Table 5.

Table 5. Pre-Test Scores for Writing Attitude

Group	N	$\bar{X}$	S	sd	t	P
Control Group	36	39.05	3.44	73	1.5	*.12
Experimental Group	39	40.20	3.01			

* $p < .05$

As a result of the pre-test scores for writing attitudes of the experimental and control group students, no significant difference was found between the groups, indicating that they had a similar structure ($t(73) = 1.54$; $p > .05$).

The t-test results for the post-test scores of writing attitudes in the experimental and control groups are presented in Table 6.

Table 6. Post-Test Scores for Writing Attitude

Group	N	$\bar{X}$	S	Sd	t	P
Control Group	36	39.25	2.94	73	-3.00	*.00
Experimental Group	39	42.25	4.28			

* $p < .05$

When examining the post-test scores for writing attitude, it was found that the scores of the experimental group students differed significantly compared to the control group ($t(73) = -3$; $p < .05$).

Before evaluating students' writing anxiety scores, skewness and kurtosis coefficients were examined to determine whether the data followed a normal distribution. The analysis results are presented in Table 7.

Table 7. Writing Anxiety Normality Analysis

Variable	N	Min.	Max.	Skewnes	Kurtosis	Sd
Anxiety Pre-Test	75	35	46	-.16	-.65	2.76
Anxiety Post-Test	75	31	44	-.38	-.12	2.69

According to Table 7, since the multivariate kurtosis value falls between -2 and +2, the dataset is considered to have multivariate normality (Karagöz, 2017). To determine the effect of process-genre-

based writing activities on writing anxiety, an independent t-test analysis was conducted for the pre-test and post-test scores. Table 8 presents the pre-test scores related to students' writing anxiety.

Table 8. Writing Anxiety Pre-Test Scores

Group	N	$\bar{X}$	S	sd	T	P
Control Group	36	40.13	2.28	73	-1.08	*2.83
Experimental Group	39	40.82	3.13			

*p < .05

The analyses conducted on the impact of creative writing activities, which involve altering story elements, on students' writing anxiety indicate that the groups significantly differed from each other ($t(73) = -4.28, p < .05$).

The results of the t-test regarding students' post-test writing anxiety scores are shown in Table 9.

Table 9. Writing Anxiety Post-Test Scores

Group	N	$\bar{X}$	S	Sd	T	P
Control group	36	39.58	2.29	73	-4.28	*.00
Experimental group	39	37.17	2.54			

*p < .05

The analysis of the effect of creative writing activities involving changing story elements on students' writing anxiety revealed a significant difference between the groups ($t(73) = -4.28, p < .05$).

Qualitative Results

Data were collected using a structured interview form to gather the opinions of the experimental group students regarding the process of creating fairy tale parodies through the process-genre-based writing approach. Based on the data obtained from the interview form, themes were identified. Table 10 presents information on these themes and the corresponding codes.

Table 10. Student Opinions on Writing Fairy Tale Parodies Using the Process-Genre-Based Approach

Cognitive Views	N	Affective Reactions	N
1. Positive Cognitive Views	27	1. Positive Affective Reactions	69
Critical Thinking	12	Fun	30
Creativity	15	Sharing	14
		Motivation	25
2. Negative Cognitive Views	11	2. Negative Affective Reactions	7
Difficulty	8	Anxiety	4
Avoidance	3	Shyness	3

According to Table 10, based on the data obtained from the students, two main themes emerged: Cognitive Views and Affective Reactions. Under the Cognitive Views theme, two sub-themes were identified: Positive Cognitive Views and Negative Cognitive Views. Under the Affective Reactions theme, two sub-themes were identified: Positive Affective Reactions and Negative Affective Reactions.

Cognitive Views on Writing Fairy Tale Parodies Using the Process-Genre Approach

1. Positive Cognitive Views

The positive cognitive views of the experimental group students regarding the process-genre-based fairy tale parody writing ($n = 27$) are composed of two sub-themes: critical thinking ($n = 12$) and creativity ($n = 15$).

The first cognitive view that students mentioned, which they felt contributed to their development, was oriented toward critical thinking skills. The students stated that the process positively influenced them in terms of critical thinking, which encompasses a range of mental processes such as reasoning, analysis, and evaluation. For example, participant Ö27 said, "Changing a well-known fairy tale by turning good into bad and bad into good was incredibly fun for me." This statement indicates that the student was able to approach the task from a different perspective and generate alternative ideas.

Participant Ö2 also expressed a critical perspective towards fairy tales by stating, "I struggled a lot at the beginning of writing, but as we continued, I started enjoying expressing my own ideas and altering the fairy tale as I wished. For instance, in the Jack and the Beanstalk tale, it was ridiculous that a man who stole things from a giant ended up happy..." This comment demonstrates the development of a critical viewpoint on the fairy tales.

Another positive cognitive view related to the process is creativity. Regarding creativity, which involves producing new, original, and unexpected ideas throughout the process, participant Ö13 shared, "I really loved the preparatory activities we did before the fairy tales. For example, while making different animals converse with each other, I thought of the film 'Kral Şakir'. I made them talk about funny things just like in that movie." This illustrates the process of creating an original product. Additionally, participant Ö5 remarked, "When I read the fairy tale I wrote to my mother, she was amazed at how I could imagine so many things. I guess my imagination is well-developed." This statement both highlights the student's strengths and emphasizes the importance of imagination and creativity.2.

2. Negative Cognitive Views

The negative cognitive views of the experimental group students regarding the process-genre-based fairy tale parody writing (n = 11) consist of two sub-themes: difficulty (n = 8) and avoidance (n = 3). The first issue that students expressed as a negative cognitive view was 'difficulty'. This sub-theme can be evaluated in two dimensions: 'physical difficulty', which involves long writing processes, and 'cognitive difficulty', which involves thinking processes. Participant Ö22 emphasized physical difficulty by stating: "It was nice to read our stories to my friends and laugh at what we wrote, but I got very tired while writing. Sometimes, I didn't write down everything that came to my mind because writing was too hard." This statement indicates that the student experienced fatigue and, as a result, could not fully reflect their potential. Similarly, participant Ö35 highlighted cognitive difficulty caused by sequential processes: "Before writing the fairy tale, we did many activities like breaking it down and rewriting it. But I got really exhausted. I think just reading a book would have been more relaxing." This suggests that the step-by-step structure of the process caused mental fatigue.

Another negative cognitive view related to the process was 'avoidance'. This refers to the reluctance to engage in the activities or perceiving them as unnecessary. Participant Ö6 provided an example of this attitude, stating "It was too long and difficult for me. That's why I wouldn't want to do similar activities again." Likewise, participant Ö18 indicated avoidance, saying "I wouldn't do such a task on my own; I'm only doing it because my teacher asked me to." This response highlights a lack of intrinsic motivation for the process.

Affective Responses to Process-Genre-Based Fairy Tale Parody Writing

1. Positive Affective Responses

The positive affective responses of the experimental group students regarding the process-genre-based fairy tale parody writing (n = 69) consist of three sub-themes, fun (n = 30), sharing (n = 14) and motivation (n = 25).

The first affective response expressed by students was 'fun'. This theme is defined as enjoying the process and having a pleasant time. Participant Ö21 shared their thoughts, "Actually, I had fun in every fairy tale, but my favorite was Jack and the Beanstalk. Instead of sending Jack to the giants' land, I sent him to a shopping mall. My friends laughed a lot at my idea and had fun." Similarly, participant Ö7 emphasized the fun aspect, stating, "I would love to do more activities like this. Our lessons are so much fun this way."

The second positive affective response was 'sharing'. This sub-theme focuses on students' willingness to share their written work with their families and friends. Participant Ö2 expressed happiness about sharing their work, "I love reading the stories we wrote in class. Everyone eagerly waits to hear what I have written." Likewise, participant Ö14 highlighted the joy of listening to others' stories, "I don't really enjoy writing, but I have so much fun listening to my friends' stories in class."

The third positive affective response was 'motivation'. Students showed excitement and eagerness toward the activities. Participant Ö27 stated, "I really loved the part where we guessed which fairy tale we would work on that week. We wanted to find out and start as soon as possible." Similarly, participant Ö9 expressed regret about missing an activity due to illness, indicating motivation, "The most upsetting moment for me was missing the Pied Piper of Hamelin activity. I couldn't write that part because I was sick." This statement highlights the student's eagerness to participate in the process.

2. Negative Affective Responses

The negative affective responses of the experimental group students regarding the process-genre-based fairy tale parody writing (n = 7) consist of two sub-themes: anxiety (n = 4) and shyness (n = 3). The least emphasized theme in the qualitative dimension was 'anxiety', which refers to feelings of unease and nervousness without a concrete reason. Participant Ö35 expressed their anxiety by stating, "I knew I wouldn't be able to write good things; I'm not a writer..." Similarly, participant Ö18 shared concerns about peer reactions, "Actually, I could have written something much better, but I stopped because I was afraid my friends would laugh at me."

The second sub-theme of negative affective responses was 'shyness', which includes feelings of embarrassment and lack of confidence. Participant Ö9 expressed discomfort about sharing their work, "I wish only my teacher could read it; I don't want my friends to hear it." Another example of shyness due to lack of confidence was provided by participant Ö1, "After listening to Elif's story, I didn't want to read mine. It wasn't as good as hers." These findings suggest that while most students had positive affective responses to the process, a small number experienced anxiety or shyness, which influenced their willingness to participate and share their work.

Discussion

This study aimed to determine the effect of the process-genre-based writing approach on the process of creating fairy tale parodies among primary school students. For this purpose, the study was designed according to a mixed-methods approach that integrates both qualitative and quantitative data. While the quantitative dimension analyzed the impact of the instructional process on students' anxiety levels and attitudes through scales, the qualitative dimension collected the opinions of the experimental group students regarding the activities and process. When the qualitative and quantitative findings were examined holistically, it was determined that students' anxiety levels decreased, their attitudes toward writing improved significantly, and they developed a positive perspective on the educational process.

The first finding obtained from the study revealed that the experimental group, which received process-genre-based writing training, showed a significant increase in positive attitudes toward writing compared to the control group. This finding suggests that the process-genre approach can be used to foster a positive attitude toward creative writing, which is a complex and challenging skill, during the early years of primary education when writing foundations are established. Similarly, Türkyılmaz (2021) conducted a quasi-experimental study with 67 seventh-grade students and found that activity-based creative writing practices improved students' attitudes toward creative writing. The literature indicates that different creative writing applications positively influence students' attitudes toward writing at all educational levels (Gökçe, 2020; Türkel & Çetinkaya, 2020). International studies also support these findings, demonstrating that strategic writing instruction, increasing writing frequency, and working with different text types positively impact students' attitudes toward writing (Buhrke et al., 2002; Dhadhodara & Joshi, 2018; Okasha & Hamdi, 2014). However, some studies contradict these findings. Yüksel (2016), in a study with fifth-grade students, found that while the experimental group

showed significant improvements in cognitive fluency, there was no meaningful change in students' attitudes toward writing.

Another quantitative finding of the study indicated that students who received process-genre-based creative writing instruction experienced a significant reduction in writing anxiety compared to those who did not receive such training. Similarly, Güneşer Kurt (2023) implemented drama-based creative writing activities with fourth-grade students to reduce writing anxiety and found the process to be effective in alleviating writing anxiety. Another supporting study by Taşkın and Karakuş Tayşi (2018) examined project-based learning in writing activities and concluded that this method contributed positively to both students' writing skills and their writing anxiety. The international literature also contains studies showing that planned writing instruction reduces students' writing anxiety (Balsamo, 2019; Dörnyei, 2005; Oxford, 1999). However, Elçi (2018), in a study involving a series of reflective writing activities, found that although students' writing skills improved, their writing anxiety did not show a significant decrease, which contradicts the current study's findings.

The first qualitative finding of the study indicated that students primarily expressed their thoughts about the activities from an affective perspective. Given that the study focused on fostering a positive perspective on writing rather than solely developing writing skills at the primary school level, this was considered a desirable outcome. Indeed, Oral (2008) emphasized that students' writing products should not be criticized but rather supported constructively.

From an affective perspective, the study identified two themes: positive and negative reactions. Findings related to positive reactions revealed that students found the activities enjoyable, were eager to participate in similar writing tasks, and felt happy when sharing their work. Supporting this finding, Ediger (1993) conducted a study with sixth-grade students involving myth-writing activities and found that students' interest levels increased and they were eager to share their work. Similarly, Pawliczak (2015), in a semester-long study of writing activities, gathered students' opinions and found that 45% of students considered story writing to be the most enjoyable form of writing. Additionally, students expressed enthusiasm for writing and a desire to engage in more writing activities. Research indicates that willingness to write is related to individuals recognizing their ability to engage in writing activities and gaining confidence (Avcı, 2013; Göçen, 2018). This suggests that the findings of the present study are well-supported by existing literature.

There were also findings indicating that students developed limited but negative affective reactions to the activities. These negative responses included anxiety about failure and reluctance to share their writing. Studies have shown that writing anxiety is inversely related to writing frequency and that long-term and repeated writing activities help reduce writing anxiety (İşeri & Ünal, 2012; Karakaya & Ülper, 2011). Therefore, for students with deeper levels of writing anxiety, a five-week program may be insufficient, and a continuous, integrated writing education spanning all grade levels may be more effective.

Some of the students' responses to the writing process were cognitive in nature. Positive cognitive responses were categorized under two subthemes: critical thinking and creativity. Students expressed that looking at fairy tales from different perspectives, redesigning characters, settings, time, and events was interesting and enjoyable, and they wished to spend more time on such activities. Literature supporting this finding suggests that creative writing exercises enhanced with visual and auditory stimuli foster creativity in students (Beydemir, 2010; McCarthy & McCarthy, 2006; Özdemir & Çevik, 2018; Tonyalı, 2010). Additionally, consistent with these findings, creative writing activities not only influence creative thinking but also enhance problem-solving skills and the ability to generate different perspectives, thereby developing critical thinking (Batdal Karaduman & Yıldırım, 2017; Özdemir & Çevik, 2018).

Another finding of the study revealed that students exhibited limited but negative cognitive responses to the writing process. These responses, categorized as difficulty and avoidance, included statements from students indicating that they struggled to generate ideas, found it difficult to think, and avoided writing because they were dissatisfied with their work. Göçen (2018), in a study examining teachers' perspectives on creative writing, noted that students might struggle with writing activities due to individual differences. Additionally, the literature suggests that writing is a rigorous and demanding process that requires persistence, which is why many students find writing tasks challenging (Applebee et al., 1986; Collins & Parkhurst, 1996).

Conclusion and Suggestions

This study aimed to determine the effect of process-genre-based writing activities on the creation of fairy tale parodies among primary school students. In the quantitative dimension of the study, which was designed using an embedded mixed-methods approach, pre-tests and post-tests were administered to the experimental and control groups. The findings indicated that the writing program significantly contributed to the experimental group students' attitudes toward writing and their writing anxiety. Accordingly, it was observed that guided, hands-on writing activities incorporating various visual and auditory methods could help students develop a positive attitude toward writing and reduce writing anxiety from an early age. Additionally, although the control group students, who did not receive any instruction and were only asked to write fairy tale parodies, showed no statistically significant changes, there was still a slight improvement in their writing attitudes and anxiety. This suggests that even standalone creative writing exercises and the use of stories and fairy tales can positively influence students' attitudes toward writing.

In the second phase of the study, the opinions of the experimental group students, who wrote fairy tale parodies using the process-genre-based writing approach, were collected. The findings showed that students responded to the process in two ways: cognitive and affective. The affective responses, which students emphasized more, indicated that they found the process enjoyable, took pleasure in sharing their work, and were eager to engage in similar writing activities in the future. The cognitive responses of the experimental group students suggested that the writing process positively contributed to their critical thinking skills and creativity.

Throughout the study, a limited number of students exhibited persistent negative reactions toward the process. These reactions, such as struggling, avoidance, anxiety, and hesitation, were thought to stem from individual differences. It is believed that longer, more structured, and well-planned writing activities could have a more positive impact on such students over time.

The positive changes in writing attitudes and anxiety observed in the quantitative phase were further examined in the qualitative phase through subthemes such as critical thinking, creativity, sharing, enjoyment, and motivation. Additionally, the qualitative findings provided insights into negative reactions that were not highlighted in the quantitative analysis, leading to a richer dataset. In line with the mixed-methods approach, the qualitative findings were integrated with the quantitative results to provide a more in-depth and comprehensive analysis.

From a pedagogical perspective, it is recommended that teachers actively implement the steps of the process-genre-based writing approach not only in creative writing exercises but also in other types of writing activities at the primary school level. Furthermore, to enhance student engagement, writing activities should incorporate not only fairy tale parodies but also other literary elements and various art forms such as cinema, sculpture, and music.

From a research perspective, one limitation of this study was its five-week duration. It is recommended that future studies extend this period to allow for a more comprehensive analysis and investigate the long-term retention of learning outcomes. Additionally, in-depth individual studies focusing on students who exhibit persistent negative attitudes toward writing could provide valuable insights. Further research exploring the applicability of the process-genre-based writing approach in different types of writing could also contribute to the enrichment of the current findings.

References

- Ağvan, Ö., & Asutay, H. (2018). Bir anti-masal örneği olarak cam ayakkabıları reddeden vejetaryen külkedisi. *Humanitas*, 6(11), 225-237. <https://doi.org/10.20304/humanitas.382350>
- Akbaş, E. (2020). Yabancı dil eğitiminde yazma eğitimi yaklaşımlarının gözden geçirilmesi ve yazma becerisinin diğer becerilerle ilişkilendirilmesi. *OPUS-Uluslararası Toplum Araştırmaları Dergisi*, 16(30), 3038-3082. <https://doi.org/10.26466/opus.744508>
- Akın, E., Yıldırım, O., & Narin, A. (2022). *Masalların terapötik gücü*. Nobel.
- Akyol, H. (1999). Hikâye haritası yöntemiyle metin öğretimi. *Milli Eğitim*, (142), 55-57. https://dhgm.meb.gov.tr/yayimlar/dergiler/Milli_Egitim_Dergisi/medergi/15.htm
- Akyol, H. (2000). Yazı öğretimi. *Millî Eğitim Dergisi*, (146), 37-48.
- Akyol, H. (2006). *Yeni programa uygun Türkçe öğretim yöntemleri*. Kök.
- Albertson, L., Billingsley, M., & Felix, R. F. (2001). Using strategy instruction and self-regulation to improve gifted students' creative writing. *Journal of Secondary Gifted Education*, 12(2), 90-111. <https://doi.org/10.4219/jsge-2000-648>
- Applebee, A. N., Langer, J. A., & Mullis, I. V. S. (1986). *The writing report card: Writing achievement in american schools*. Educational Testing Service.
- Arthur, B., & Zell, N. A. (1996). Strategy for teaching creative writing skills to emotionally disturbed students. *Preventing School Failure: Alternative Education for Children and Youth*, 40(4), 28-30. <https://doi.org/10.1080/1045988X.1996.9944617>
- Aşıkcan, M., & Pilten, G. (2016). Sınıf öğretmenlerinin yazılı anlatım çalışmalarının süreç temelli yazma modeli odaklı değerlendirilmesi. *Turkish Studies - International Periodical for the Languages, Literature and History of Turkish or Turkic*, 11(3), 255-276. <https://doi.org/10.7827/TurkishStudies.9871>
- Aşlıoğlu, B. (1993). *Ortaokullarda Türkçe öğretimi* (Thesis No. 25980). [Doctoral dissertation, Ankara University]. Council of Higher Education National Thesis Center.
- Aşlıoğlu, B., & Özkan, E. (2013). Ortaokul öğrencilerinin yazma kaygılarının bazı değişkenler açısından incelenmesi: Diyarbakır örneği. *The Journal of Academic Social Science Studies*, 6(6), 83-111. <https://doi.org/10.9761/JASSS1527>
- Avcı, A. S. (2013). *Yaratıcı yazma etkinliklerinin 8. sınıf öğrencilerinin yazma eğilimleri ve yazma kaygılarına etkisi* (Thesis No. 345619) [Master's thesis, Niğde University]. Council of Higher Education National Thesis Center.
- Ayyıldız, M., & Bozkurt, Ü. (2006). Edebiyat ve kompozisyon eğitiminde karşılaşılan sorunlar (alan araştırması-Van örneği). *The Journal of Turkish Educational Science*, 4(1), 45-54. https://www.academia.edu/9768606/Edebiyat_ve_Kompozisyon_E%C4%9Fitiminde_Kar%C5%9F%C4%B1la%C5%9F%C4%B1lan_Sorunlar
- Badger, R., & White, G. (2000). A process genre approach to teaching writing. *ELT Journal*, 54(2), 153-160. <https://doi.org/10.1093/elt/54.2.153>
- Baki, A. (2019). *Eğitimde yeni yaklaşımlar*. Eğitim Yayınları.
- Balsamo, A. M. (2019). *Effects of self-regulated strategy development on the writing performance and sense of self-efficacy of postsecondary English language learners* [Master's thesis, University of Toronto]. <https://utoronto.scholaris.ca/server/api/core/bitstreams/f2573a11-8094-4fd6-8b8b-98992a543c4a/content>
- Başkök, B. (2012). *İlköğretim 7. sınıf öğrencilerine uygulanan yaratıcı yazma çalışmalarının, öğrencilerin yaratıcılıklarına ve Türkçe dersine olan tutumlarına etkisinin incelenmesi* (Thesis No. 302848) [Master's thesis, Akdeniz University]. Council of Higher Education National Thesis Center.
- Batdal Karaduman, G., & Yıldırım, E. (2017). Sınıf öğretmeni adaylarının yaratıcı düşünme becerisi hakkındaki görüşlerine ait nitel bir çalışma. *Üstün Zekâlılar Eğitimi ve Yaratıcılık Dergisi*, 4(2), 51-63. <https://dergipark.org.tr/en/pub/jgedc/issue/38703/449422>

- Bayat, N. (2014). Sürece dayalı yazma yaklaşımının yazma başarısı ve kaygısı üstündeki etkisi. *Kuram ve Uygulamada Eğitim Bilimleri*, 14(3), 1123-1141. <https://doi.org/10.12738/estp.2014.3.1720>
- Baysal, A. C., & Tekarslan E. (2004). *Davranış bilimleri* (Expanded 4th ed.). Avcıol Basım Yayın.
- Beydemir, A. (2010). *İlköğretim 5. sınıf Türkçe dersinde yaratıcı yazma yaklaşımının yazma başarısına ve yazmaya yönelik tutumlara etkisi* (Thesis No. 286641) [Master's thesis, Pamukkale University]. Council of Higher Education National Thesis Center.
- Bilgili, G. Y., & Kana, F. (2018). Yaratıcı yazma etkinliklerinin Türkçe öğretmeni adaylarının yazma becerisine etkisi. *Akdeniz Eğitim Araştırmaları Dergisi*, 12(26), 544-561. <https://doi.org/10.29329/mjer.2018.172.27>
- Bilican Demir, S., & Yıldırım, Ö. (2019). Yazılı anlatım becerilerinin değerlendirilmesi için dereceli puanlama anahtarı geliştirme çalışması. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 47, 457-473. <https://doi.org/10.9779/pauefd.588565>
- Boratav, P. N. (2002). *Masal, çocuk edebiyatı yıllığı-1987* (M. R. Şirin, Ed.). Gökyüzü.
- Buhrke, L., Henkels, L., Klene, J., & Pfister, H. (2002). *Improving fourth grade students' writing skills and attitudes* (ED471788). ERIC. <https://eric.ed.gov/?id=ED471788>
- Calp, M. (2013). Serbest ve yaratıcı yazma tekniğine göre oluşturulan kompozisyonların yazılı anlatımın niteliği ve puanlama tekniği açısından karşılaştırılması. *Turkish Studies*, 8(9), 879-898. <https://doi.org/10.7827/TurkishStudies.5340>
- Cemiloğlu, M. (2001). *İlköğretim okullarında Türkçe öğretimi*. Alfa.
- Collins, N. D., & Parkhurst, L. (1996). Teaching strategies for gifted children in the regular classroom. *Roeper Review*, 18(4), 277-279. <https://doi.org/10.1080/02783199609553759>
- Conroy, M., Marchand, T., & Webster, M. (2009). *Motivating primary students to write using writer's workshop* [Master's thesis, Saint Xavier University]. ERIC. <https://eric.ed.gov/?id=ED504817>
- Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Pearson
- Cüceloğlu, D. (2017). *İnsan ve davranış*. Remzi Kitabevi.
- Cüceloğlu, D. (2003). *İnsan ve davranış - Psikolojinin temel kavramları* (12th ed.). Remzi Kitabevi.
- Çiğdemir, S. (2022). Sınıf öğretmenlerinin gözüyle yaratıcı yazma. In H. Akyol (Ed.), *20. Uluslararası Sınıf Öğretmenliği Eğitimi Sempozyumu tam metin bildiri kitabı* (pp. 41-50). https://www.researchgate.net/profile/Seval-Cigdemir/publication/367077476_Sinif_Ogretmenlerinin_Gozuyle_Yaratici_Yazma/links/63c06ee2ef57e61a61116527/Sinif-Ogretmenlerinin-Goezueyle-Yaratici-Yazma.pdf
- Degh, L. (2006). Halk anlatısı (Z. Karagülle, Trans.). In M. Ekici ve M. Öcal Oğuz (Ed.), *Halk bilminde kuramlar ve yaklaşımlar*. Geleneksel.
- Demirel, Ö., & Şahinel, M. (2006). *Türkçe ve sınıf öğretmenleri için Türkçe öğretimi* (7th ed.). Pegem Yayıncılık.
- Dhadhodara, N., & Joshi, B. (2018). The writing attitude of higher education students. *Horizons of Holistic Education*, 4(3-4), 111-120. https://www.researchgate.net/publication/325386595_THE_WRITING_ATTITUDE_OF_HIGHER_EDUCATION_STUDENTS
- Dilidüzgün, S. (1994). *Çağdaş eğitimde sanat*. Çağdaş Yaşamı Destekleme Derneği Yayınları.
- Dilidüzgün, S. (1996). *Çağdaş çocuk yazını*. Yapı Kredi.
- Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition* (1st ed.). Routledge.
- Ediger, M. (1993). *Middle school pupils write legends* (ED357374). ERIC.

- Elçi, Z. A. (2018). *Yansıtıcı düşünmeye dayalı yazma etkinliklerinin 8. sınıf öğrencilerinin yazılı anlatım becerileri yazma tutumları ve yazma kaygıları üzerindeki etkisi* (Thesis No. 511948) [Master's thesis, Gaziantep University]. Council of Higher Education National Thesis Center.
- Fisher, J. E. (2017). *The intelligent essay assessor autograder and its effect on reducing college writing anxiety* (Thesis No. 10265396) [Doctoral dissertation, Keiser University]. ProQuest Dissertations & Theses Global.
- Göçer, A. (2014). Yazma Tutum Ölçeğinin (YTÖ) Türkçeye uyarlanması: Geçerlik ve güvenirlik çalışması. *Kastamonu Üniversitesi Kastamonu Eğitim Dergisi*, 22(2), 515-524. <https://dergipark.org.tr/tr/pub/kefedergi/issue/22602/241505>
- Göçer, A., & Kurt, A. (2022). Yazma eğitiminde süreç-tür odaklı yazma yaklaşımının kullanımı. *Ağrı İbrahim Çeçen Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 8(2), 335-360. <https://doi.org/10.31463/aicusbed.1117059>
- Göçen, G. (2018). Sınıf öğretmenlerinin yazmaya yönelik yeterlilik algısına, tutumuna ve yaratıcı yazma başarısına yaratıcı yazma çalışmalarının etkisi. *Journal of Turkish Studies*, 13(27), 737-762. <https://doi.org/10.7827/TurkishStudies.14438>
- Gökçe, A. (2020). *İlkokul dördüncü sınıf Türkçe dersinde yaratıcı yazma uygulamalarının öğrencilerin Türkçe dersi tutumu, yazma tutumu ve yaratıcı yazma becerileri üzerine etkisi* (Thesis No. 629025) [Master's thesis, Bozok University]. Council of Higher Education National Thesis Center.
- Greene, J. C. (2007). *Mixed methods in social inquiry*. Josey-Bass
- Güneşer Kurt, E. (2023). *Dramanın ilkökul dördüncü sınıf öğrencilerinin yaratıcı yazma, yazma kaygısı ve motivasyonuna etkisi* (Thesis No. 796220) [Master's thesis, Bozok University]. Council of Higher Education National Thesis Center.
- Gürel, Z., Temizyürek, F., & Şahbaz, N. K. (2007). *Çocuk edebiyatı*. Öncü Kitap.
- Hyland, K. (2003). Genre-based pedagogies: A social response to process. *Journal of Second Language Writing*, 12(1), 17-29. [https://doi.org/10.1016/S1060-3743\(02\)00124-8](https://doi.org/10.1016/S1060-3743(02)00124-8)
- İşeri, K., & Ünal, E. (2012). Türkçe öğretmen adaylarının yazma kaygı durumlarının çeşitli değişkenler açısından incelenmesi. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 8(2), 67-76. <https://doi.org/10.17860/efd.70585>
- İşnas, S. (2011). *Masal türünün çocuktaki kavram gelişimine etkisi üzerine bir araştırma (Cahit Zarifoğlu örneği)* (Thesis No. 296329) [Master's thesis, Kocatepe University]. Council of Higher Education National Thesis Center.
- Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches* (7. ed.). Sage.
- Karagöz, Y. (2017). *SPSS ve AMOS uygulamalı bilimsel araştırma yöntemleri*. Nobel.
- Kasımoğlu, S. (2017). *Binbir gece masallarında kahraman izleği: Şehriyar'ın farkındalık yolculuğu*. Ürün.
- Karakaya, İ., & Ülper, H. (2011). Yazma kaygısı ölçeğinin geliştirilmesi ve yazma kaygısının çeşitli değişkenlere göre incelenmesi. *Kuram ve Uygulamada Eğitim Bilimleri*, 11(2), 691-707. <https://search.trdizin.gov.tr/tr/yayin/detay/116231/>
- Katrancı, M., & Temel, S. (2018). İlkokul öğrencilerine yönelik yazma kaygısı ölçeği: Geçerlik ve güvenirlik çalışması. *Journal of Social and Humanities Sciences Research*, 5(24), 1544-1555. <https://doi.org/10.26450/jshsr.516>
- Koçyiğit, B. K., & Sefer, G. D. (2005, October). Süreç değerlendirme yaklaşımlarıyla yazma becerilerinin geliştirilmesine yönelik bir çalışma: Benim öykülerim [Paper presentation]. Eğitimde İyi Örnekler Konferansı, Sabancı University, İstanbul.
- Korkmaz, G. (2015). *Yaratıcı yazma yönteminin 6. sınıf öğrencilerinin yazma öz yeterlik algılarına, yazmaya ilişkin tutumlarına ve yazma becerisi akademik başarılarına etkisi* (Thesis No. 398381) [Master's thesis, Gaziantep University]. Council of Higher Education National Thesis Center.

- Maltepe, S. (2006). Türkçe öğretiminde yazılı anlatım uygulamaları için bir seçenek: Yaratıcı yazma yaklaşımı. *Dil Dergisi*, (132), 56-66. https://doi.org/10.1501/Dilder_00000000056
- McCarthy, P., & McCarthy, M. (2006). When case studies are not enough: Integrating experiential learning into the business curricula. *Journal of Education for Business*, 81(4), 201-204. <https://doi.org/10.3200/JOEB.81.4.201-204>
- Mert, E. L. (2014). Türkçe öğretmen adaylarının yaratıcı yazma örneklerinin çözümleyici puanlama yönergesi bağlamında değerlendirilmesi. *International Journal of Eurasia Social Sciences*, (14), 1-15. <https://dergipark.org.tr/tr/pub/ijoess/issue/8528/105908>
- Merriam, S. B. (2013). *Qualitative research: A guide to design and implementation* (3rd ed.). Jossey-Bass.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Sage.
- National Comission. (2006). *Writing and school reform, report of national comission on writing for Amerika's families, schools and colleges*. College Board.
- Odeabank. (2023). *Eşit masallar*. <https://www.odeabank.com.tr/esit-masallar>
- Oğuz, B., & Doğan Kahtalı, B. (2020). Yazma stratejilerine yönelik bir derleme çalışması ve stratejilerin yazma kazanımlarıyla ilişkisi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 7(14), 119-137. <https://doi.org/10.2909129/inuigse.7018>
- Oğuzkan, F. (2013). *Yerli ve yabancı yazarlardan örneklerle çocuk edebiyatı*. Anı.
- Okasha, M., & Hamdi, S. (2014). Using strategic writing techniques for promoting EFL writing skills and attitudes. *Journal of Language Teaching and Research*, 5(3), 674-681. <https://doi.org/10.4304/jltr.5.3.674-681>
- Oral, G. (2008). *Yine yazı yazıyoruz*. Pegem Akademi.
- Oxford, R. (1999). Anxiety and the language learner: New insights. In Jane, A. (Ed.), *Affect in language learning* (pp. 58-67). Cambridge University Press.
- Özbay, M. (1995). *Ankara merkez ortaokullarındaki üçüncü sınıf öğrencilerin yazılı anlatım becerileri üzerine bir araştırma* (Thesis No. 41062) [Doctoral dissertation, Gazi University]. Council of Higher Education National Thesis Center.
- Özdemir, O. (2019). Yazma eğitiminde süreç, tür ve süreç-tür temelli yaklaşımların kullanımları. *Gazi Üniversitesi Eğitim Fakültesi Dergisi*, 39(1), 545-573. <https://doi.org/10.17152/gefad.442223>
- Özdemir, S., & Çevik, A. (2018). Yaratıcı yazma çalışmalarının yazmaya yönelik tutuma ve yaratıcı yazma başarısına etkisi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 19(2), 141-153. <https://doi.org/10.17679/inuefd.336990>
- Özen, N. N. (2023). Postmodern bir karşı masal: "Kırmızı Başlıklı Kız Ağlıyor" adlı gençlik romanında cinsel istismar. *Humanitas*, 11(22), 327-345. <https://doi.org/10.20304/humanitas.1308223>
- Öztürk, E. (2007). *İlköğretim V. sınıf öğrencilerinin yaratıcı yazma becerilerinin değerlendirilmesi* (Thesis No. 207018) [Doctoral dissertation, Gazi University]. Council of Higher Education National Thesis Center.
- Pawliczak, J. (2015). Creative writing as a best way to improve writing skills of students. *Sino-US English Teaching*, 12(5), 347-352. <https://doi.org/10.17265/1539-8072/2015.05.004>
- Peker, B., Küçük Gençay, N., & Acar, S. (2021). A new answer for the question of how we will make mathematics attractive: Cinema. *Turkish Journal of Computer and Mathematics Education*, 12(14), 3765-3778. https://www.researchgate.net/publication/356783901_A_New_Answer_for_the_Question_of_How_We_Will_Make_Mathematics_Attractive_Cinema
- Rahman, F. (2017). The revival of local fairy tales for children education. *Theory and Practice in Language Studies*, 7(5), 336-344. <https://doi.org/10.17507/tpls.0705.02>

- Salim, N. A., Walker, Z. M., & Rosenblatt, K. (2016). Teacher perceptions on the effectiveness of a process-genre approach on the writing skills of students with dyslexia. *Asia Pasific Journal of Developmental Differences*, 3(1), 35-61. <https://doi.org/10.3850/S2345734114000217>
- Sayılğan, Ö., & Cıvaş, G. (2021). Postmodern masal uyarlaması olarak Sihirli Orman filmi. *Selçuk İletişim*, 14(4), 1546-1577. <https://doi.org/10.18094/josc.942959>
- Sever, S. (2004). *Türkçe öğretimi ve tam öğrenme* (4th ed.). Anı.
- Sharples, M. (1999). *How we write: Writing as creative design*. Routledge
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63-75. <https://doi.org/10.3233/EFI-2004-22201>
- Susar Kırmızı, F. (2008). Türkçe dersinde yaratıcı drama yönteminin yaratıcı yazma başarısına etkisi ve yazılı anlatım ürünlerinin değerlendirilmesi. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 41, 251-275. https://doi.org/10.1501/Egifak_0000001463
- Susar Kırmızı, F., & Beydemir, A. (2012). İlköğretim 5. sınıf Türkçe dersinde yaratıcı yazma yaklaşımının yazmaya yönelik tutumlara etkisi. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (KEFAD)*, 13(3), 319-337. https://dergipark.org.tr/tr/pub/kefad/issue/59486/854951#article_cite
- Tabak, G., & Göçer, A. (2013). 6-8. Sınıflar Türkçe dersi öğretim programının ürün ve süreç odaklı yazma yaklaşımları çerçevesinde değerlendirilmesi. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 14(2), 147-169. <https://dergipark.org.tr/tr/pub/kefad/issue/59471/854605>
- Taşkın, Y., & Karakuş Tayşi, E. (2018). Proje tabanlı öğrenme yaklaşımının yazma becerisine ve yazma kaygısına etkisi. *Ana Dili Eğitimi Dergisi*, 6(4), 1226-1240. <https://doi.org/10.16916/aded.460375>
- Tavşanlı, Ö. F., Bilgin, A., & Yıldırım, K. (2019). Yazmaya ilişkin tutum ölçeğinin Türkçe uyarlama çalışmaları. *Dil Eğitimi ve Araştırmaları Dergisi*, 5(2), 267-282. <https://doi.org/10.31464/jlere.561205>
- Tavşanlı, Ö. F., & Kaldırım, A. (2020). Türkiye’de süreç temelli yazma yaklaşımı: Bir tematik analiz çalışması. *Cumhuriyet Uluslararası Eğitim Dergisi*, 9(1), 108-138. <http://cije.cumhuriyet.edu.tr/tr/pub/issue/53201/543600>
- Tekindal, S. (2015). *Duyuşsal özelliklerin ölçülmesi için araç oluşturma*. Pegem Akademi.
- Temizkan, M. (2011). The effect of creative writing activities on the story writing skill. *Kuram ve Uygulamada Eğitim Bilimleri*, 11(2), 933-939. <https://avesis.mku.edu.tr/yayin/2301508f-949f-4998-8295-35970f591a8c/the-effect-of-creative-writing-activities-on-the-story-writing-skill>
- Temizkan, M., & Sallabaş, E. (2009). Öğretmen adaylarının okuma ve yazmaya yönelik tutumlarının karşılaştırılması. *Elektronik Sosyal Bilimler Dergisi*, 8(27), 155-176. <https://dergipark.org.tr/tr/pub/esosder/issue/6141/82407>
- Temizkan, M. & Yalçinkaya, M. (2013). İlköğretim 6. 7. 8. sınıf Türkçe öğretmenlerinin yaratıcı yazma etkinliklerini uygulama durumları. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi*, (20), 80-101. <https://dergipark.org.tr/tr/pub/zgefd/issue/47944/606573>
- Tiryaki, E. N. (2012). Üniversite öğrencilerinin yazma kaygısının çeşitli değişkenler açısından belirlenmesi. *Dil ve Edebiyat Eğitimi Dergisi*, 1(1), 14-21 https://www.academia.edu/1473366/Universite_ogrencilerinin_yazma_kaygisinin_cesitli_degiskenler_acisindan_belirlenmesi
- Tonyalı, E. (2010). *Yaratıcı yazma uygulamalarının ilköğretim altıncı sınıf öğrencilerinin yazma becerilerine etkisi* (Thesis No. 263465) [Master’s thesis, Abant İzzet Baysal University]. Council of Higher Education National Thesis Center.
- Türkel, A., & Çetinkaya, M. (2020). The effect of creative writing activities on students’ attitudes towards writing and their success. *International Online Journal of Educational Sciences*, 12(1), 172-183. <https://doi.org/10.15345/iojes.2020.01.010>

- Türkyılmaz, M. B. (2021). *Etkinlik temelli yaratıcı yazma çalışmalarının yedinci sınıf öğrencilerinin öykü yazma becerileri, yazma tutumları, öz düzenleme stratejileri ve motivasyonel inançlarına etkisi* (Thesis No. 670953) [Doctoral dissertation, Mustafa Kemal University]. Council of Higher Education National Thesis Center.
- Ulu Aslan, E. (2018). Postmodern expression of feminist literature: Fairy tale parodies. *The Journal of International Social Research*, 11(60), 69-76. <https://doi.org/10.17719/jisr.2018.2776>
- Ungan, S. (2007). Yazma becerisinin geliştirilmesi ve önemi. *Dumlupınar Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 23(2), 461-472. <https://avesis.ktu.edu.tr/yayin/b49a21b2-3b3b-4f2b-a077-3d7c0b50afbd/yazma-becerisinin-gelistirilmesi-ve-onemi>
- Ünalın, Ş. (2006). *Türkçe öğretimi* (1st ed.). Nobel.
- Wray, A. (1993). *The writer's toolkit: Creative writing in the classroom*. Routledge.
- Yavuz, M. H. (2013). *Masallar ve eğitimsel işlevleri*. Eğiten Kitap.
- Yıldırım, A., & Şimşek, H. (2004). *Sosyal bilimlerde nitel araştırma yöntemleri* (5th ed.). Seçkin Yayıncılık.
- Yıldız, D. (2019). Yazmayla ilişkili psikolojik nitelikler. In N. Bayat (Ed.), *Yazma ve eğitimi* (pp. 297-327). Pegem Akademi.
- Yıldız, M., & Kaman, Ş. (2016). İlköğretim (2-6.) Sınıf öğrencilerinin okuma ve yazma tutumlarının incelenmesi. *Türkiye Sosyal Araştırmalar Dergisi*, 2, 507-522. <https://avesis.gazi.edu.tr/yayin/7add9348-bb02-454e-8816-79e7fa921c67/ilkogretim-2-6-sinif-ogrencilerinin-okuma-ve-yazma-tutumlarinin-incelenmesi>
- Yüksel, T. (2016). *Ortaokul 5. sınıf Türkçe derslerinde uygulanan yaratıcı yazma etkinliklerinin öğrencilerin yazmaya yönelik tutumlarına ve sözel yaratıcılıklarına etkisinin incelenmesi* (Thesis No. 426398) [Master's thesis, Akdeniz University]. Council of Higher Education National Thesis Center.



Analysis of studies on transition to primary school in Türkiye: a meta-synthesis

Hatice Uysal Bayrak ¹, Muhammet Baştuğ ²

Abstract

The importance of the school starting age during the transition to primary education, the effect of preschool education on this process, the problems encountered during the transition, and the shortcomings in preparing children for primary school emerged as key themes in this study. The study aimed to evaluate research conducted on the transition to primary school in Türkiye using a meta-synthesis method. A total of 47 studies on the transition to primary school were analysed to offer a comprehensive understanding of the process. The findings revealed that children's primary school starting age significantly impacts their academic success and social adaptation. Preschool education plays a crucial role in ensuring a smoother transition. However, several challenges were identified, including the lack of structured preparation programs, inadequate parental guidance, and varying teacher expectations. Overall, this meta-synthesis highlights that the transition to primary school is a multifaceted process influenced by developmental, educational, and environmental factors. Addressing these challenges through targeted interventions, policy adjustments, and stakeholder collaboration is essential to ensure that children begin their educational journey with a solid foundation for future success.

Keywords

School transition
School readiness
Meta-synthesis
Preschool education

Article Info

Received: 02.06.2024
Accepted: 04.21.2025
Published Online: 10.30.2025

DOI: 10.15390/ES.2025.2572

Introduction

Starting school is an important milestone in the lives of children, their families, and educators. A positive start to school is recognised as a key factor in children's later academic and social success. Global efforts have been devoted to developing primary school transition programs that foster positive connections between children, families, and schools. Although these initiatives represent important progress, it is crucial to recognise that various actors involved in school transition processes, such as children, parents, and educators, hold diverse experiences, expectations, and perceptions. The differences in experiences, expectations, and perceptions play a critical role in shaping how transitions are regulated, enacted, and supervised. Successful transitions rely on strong collaborative relationships among all stakeholders. Such collaboration requires acknowledging the varied meanings attributed to the transition and maintaining transparent communication to set and achieve common and consistent

¹ Niğde Ömer Halisdemir University, Faculty of Education, Department of Primary Education, Niğde, Türkiye, huyisal@ohu.edu.tr

² Yıldız Teknik University, Faculty of Education, Department of Primary Education, İstanbul, Türkiye, muhammet.bastug@yildiz.edu.tr

goals (Dockett & Perry, 2004). Given that the transition to primary school marks an important milestone in children's lives, addressing school readiness through research and policies is critical for ensuring that children benefit from the education system and experience well-being during the primary school transition (Dickens et al., 2006). In this regard, children's smooth transition to school, ease of adaptation, and positive primary school experience depend on their school readiness (Janus & Offord, 2000). Despite being a widely debated topic, school readiness is still frequently referenced in studies and discussions about transitioning to school (Dockett & Perry, 2009). It is a complex construct encompassing a range of cognitive, social, and emotional skills essential for successful adaptation to formal schooling. While often regarded as a broad concept in general discourse, school readiness functions as a theoretical construct in educational research, defined through various indicators of child development and environmental readiness (Dockett & Perry, 2009; Janus & Offord, 2000). As parents and educators navigate decisions on how best to support their children's transition to formal education, they often hesitate to determine whether their children are ready for school (Dockett & Perry, 2009). Early childhood educators hold varying perspectives on school readiness and its role in early childhood education. Some educators fully embrace this concept and design structured programs to help children adapt to the school environment. These approaches prioritise individual readiness, focusing on whether the child has attained the developmental milestones necessary for transition (Dockett & Perry, 2002; 2009). Other educators, however, focus on the changes that children experience when they start school, and they call for collaboration among families, teachers, researchers, and policymakers to foster positive transition experiences. They argue that instead of placing the entire burden on children being ready for school, schools should be prepared to accommodate children's needs (Centre for Community Child Health, 2008; Fridani & Agbenyega, 2013). School readiness encompasses individual academic and psychological competencies required for the planned education (e.g., cognitive, language, physical, social, and emotional development), as well as environmental factors (e.g., family dynamics, home environment, education, and institution) (Aminova, 2022; Moore, 2006). Although researchers acknowledge that children's readiness is only one element of a successful start, there is still a tendency to focus primarily on children's characteristics while neglecting contextual factors (Dockett & Perry, 2009). The transition to primary school represents a major shift for children. It often involves moving not only from home to school but also from caregivers, kindergartens, or preschools. This shift extends beyond physical spaces, encompassing changes from familiar early care settings to unfamiliar learning environments, from small, personalised interactions to larger, more structured ones, and from limited age groups to diverse age cohorts. In essence, this transition introduces children to a new paradigm of learning, education, and care. How well children are prepared for this transition profoundly influences their long-term developmental and academic outcomes (Centre for Community Child Health, 2008).

Given that preschool education is not compulsory in Türkiye, many children miss the opportunity for early childhood education. Therefore, children transition to primary school either directly from their homes or from kindergartens. Children with diverse backgrounds and unequal opportunities encounter various challenges in primary schools, while families, teachers, and schools may hold different expectations or face distinct problems. Challenges include difficulties in adapting to structured learning environments, lower self-regulation, weaker social skills, and limited academic preparedness compared to peers with preschool experience (Dockett & Perry, 2007; UNESCO, 2020). In this context, it is crucial to identify the underlying causes of these challenges and explore opportunities to improve the transition process. Moreover, preventing and appropriately addressing the problems that may arise during this critical period are essential for children's overall development and long-term success. Thus, a thorough review of research conducted over the past two decades can provide valuable insights into achievements, ongoing challenges, and areas requiring further attention. Accordingly, this study aims to synthesise existing research on the transition to primary school in Türkiye using a meta-synthesis method.

Background

School readiness is a construct widely referenced by educators and policymakers to describe a range of abilities that support children's transition to school (Jose et al., 2022). During the transition to primary school, children often feel a sense of maturity and excitement as they begin learning skills that once seemed difficult and mysterious, such as counting and writing, while also moving into a more formal learning environment (McTaggart & Astbury, 2005). The growing focus on early childhood education as a means to enhance school readiness during this critical period has highlighted the need for a clear, unified definition of school readiness (Snow, 2006).

It is well known that children's school readiness is associated with their later academic success, but less is known about its connection to other indicators of school success, such as social and emotional well-being (Gregory et al., 2021). In 2017, a training program involving 5,019 teachers in Australia revealed varying perspectives on school readiness, with preschool teachers emphasising social and emotional skills, while primary school teachers focused more on academic readiness (Rouse et al., 2020). Similar to findings in international research (Rouse et al., 2020), discrepancies between preschool and primary school teachers' perceptions of school readiness in Türkiye also highlight the need for a holistic approach. However, the Turkish context is distinctive given the non-compulsory nature of preschool education and regional disparities in access to early learning resources. With increasing pressure for academic accountability, there is a growing tendency to overemphasise children's readiness as they start school. However, this approach overlooks the key role of schools and society in shaping children's school engagement (Dockett & Perry, 2007). Some discussions on school readiness implicitly assume a threshold for cognitive and social development. Accordingly, older children transition better to school. However, age alone is insufficient; what matters is that children must reach the necessary developmental level to succeed in school (Stipek, 2002). School readiness has traditionally been addressed through a maturity-based framework tied to chronological age, leading to the development of readiness tests. The use of such assessments in determining school readiness prior to kindergarten enrolment has revealed two surprising inconsistencies. First, early childhood screening tools have limited, mixed predictive validity for school achievement. Second, delaying school entry does not necessarily lead to better school outcomes (Snow, 2006).

Considering school readiness from a developmental perspective, responsibility is placed on children for what they can or should be able to do. This narrow perspective creates a rigid framework where children who do not meet expected norms are considered unready. Additionally, this perspective imposes pressures on early childhood educators, who are expected to prepare children to align with external standards before they transition to primary school. In contrast, an ecological perspective considers school readiness in a broader context, emphasising the role of the environment in supporting children's transition. This approach highlights the importance of social and structural support systems in determining the best conditions for children's successful adaptation. It also reinforces that school readiness is not a fixed or linear process but a multifaceted, dynamic concept open to ongoing discussion (Rouse et al., 2020).

Parents play a pivotal role in facilitating children's transition to school, acting as their first and most influential teachers. Children, their families, communities, early childhood services, and schools all share the responsibility of preparing children for the transition to school (Jose et al., 2022). The responsibility for ensuring a child's readiness and smooth transition to school lies not only with the family but also with society (Janus & Offord, 2000). Thus, a successful start to school is a social and collective effort. Children cannot navigate this transition alone, and perceived readiness is only one of many factors influencing its effectiveness. Schools and society play crucial roles in supporting children's engagement during this transition and ensuring their sustained participation in school. Children and their families are more likely to engage successfully with school when they feel valued and respected within both the school and the broader community. Conversely, when children and families feel excluded or unsupported, the negative effects extend beyond the individual level to impact society as a whole (Dockett & Perry, 2007). A strong, well-established bond between families, schools, and society

benefits not only children and their families but also schools and society. Schools face significant challenges when children start school without fundamental skills and experiences. Consequently, schools must invest additional efforts to overcome these initial differences among children (Cunha et al., 2006; Karoly et al., 2005). Indeed, insufficient readiness, whether on the part of the child, school, or society, greatly increases the cost of school transitions. Efforts to compensate for inadequate readiness later on are both less effective and more costly than providing proactive strategies and programs to ensure a smooth transition. Thus, it is in the best interest of schools to ensure that children begin their education prepared for immediate learning (Bruner et al., 2005; Cunha et al., 2006).

Institutions for Early Childhood Education in Türkiye

Early childhood education institutions in Türkiye operate in various forms, including independent kindergartens, kindergartens integrated within other educational institutions, and practical classes in vocational and technical secondary schools with child development and education departments. The primary objective of early childhood education is to foster children's physical, mental, and emotional development while instilling positive habits that facilitate their transition to primary education. Equally important is the goal of creating an equitable development and learning environment for children from disadvantaged backgrounds. Additionally, preschool education aims to ensure that children develop fluency and accuracy in speaking Turkish. In the 2019-2020 academic year, the net enrolment rate for 3- to 5-year-old children was 41.8%, the net schooling rate for 4- to 5-year-olds reached 52.4%, and the net schooling rate for 5-year-old children was 71.2% (Ministry of National Education [MoNE], 2020). Considering the age and regardless of the level of education of the child, the net enrolment rate for 5-year-olds was recorded at 75.1% in the same academic year. The fact that the net enrolment was nearly four percentage points higher than the schooling rate demonstrated that approximately 4% of 5-year-old children attended primary school (Ergün & Arık, 2020). Although preschool education is currently not compulsory, Türkiye's Eleventh Development Plan and Education Vision outlined an initiative to make preschool education mandatory for 5-year-olds by 2023 and achieve a 100% net enrolment rate (MoNE, 2018; Strategy and Budget Department, 2019). However, in the 2020-2021 academic year, the net enrolment rate for 5-year-olds in early childhood education declined from 71.2% to 56.9% due to the negative impact of the COVID-19 pandemic. It is also important to note that these net enrolment rates do not fully capture the exact number of children excluded from education. Some 3- to 5-year-olds may have enrolled in primary school, although they were within the theoretical preschool age range (Tunca et al., 2021). Policies pursuing compulsory preschool education for 5-year-olds by 2023 reflect a broader commitment to enhancing school readiness. However, research in Türkiye (Tunca et al., 2021) highlights that persistent regional disparities and socio-economic barriers hinder equal access to preschool education, emphasising the critical need for targeted interventions to complement these policy goals. Furthermore, UNESCO's COVID-19 Education Intervention report warned that the highest dropout rates due to the pandemic would be observed at the preschool level (UNESCO, 2020). Therefore, establishing robust systems to ensure uninterrupted access to early childhood education, even in times of crisis, is crucial. Without such measures, at-risk children may be deprived of the long-term social and economic benefits of early education, a critical period for cognitive and emotional development (ECDAN, 2020; Tunca et al., 2021). To summarise, both the preschool participation rate for 5-year-olds in the 2019-2020 academic year and the policy efforts to mandate preschool education by 2023 reflect Türkiye's commitment to enhancing educational equity. However, the pandemic-related decline in enrolment exposed systemic vulnerabilities, highlighting that the challenges faced by children transitioning to primary school cannot be examined solely from the perspective of individual school readiness. The rationale for this study stems from the necessity of examining this transition as a complex interaction between child-related and environmental factors. In particular, exploring the effects of social policies and educational strategies will provide valuable insights for improving current practices. Therefore, this study aims to identify the challenges associated with school transitions and propose potential solutions within this framework.

Significance of the Study

As in all fields, social sciences are experiencing rapid advancements, leading to continuous evolution in research techniques. Existing research methods are refined, while new approaches are emerging. In this context, the meta-synthesis method has been developed to collectively evaluate qualitative studies on specific topics (Polat & Ay, 2016). The findings of this study will provide valuable insights for future research by systematically analysing and synthesising the sample groups, objectives, and purposes of studies on the transition to primary school in Türkiye, as well as the methods employed, the research processes followed, and the results obtained. Rather than reviewing 47 separate studies individually, researchers can gain a consolidated understanding of trends in studies on the transition to primary school in Türkiye by analysing this meta-synthesis. This will enable them to design their research in a more structured and informed manner. Additionally, this study will help researchers assess the growing body of qualitative studies on this subject in Türkiye in recent years. By gaining a clearer understanding of previously examined variables and methods, researchers will be encouraged to explore diverse research approaches rather than conducting redundant studies. When reviewing research on the transition to primary school in Türkiye, it is evident that many studies address similar problems. Various quantitative and qualitative findings have been generated through individual research efforts. However, there is currently no meta-synthesis study that synthesises qualitative research findings to provide a comprehensive overview of the transition to primary school in Türkiye. In this respect, this study is significant as it is the first of its kind.

The concepts of school transition and readiness remain topics of ongoing debate and exploration, raising critical discussions due to unanswered questions. Thus, it is essential to obtain comprehensive and precise information to establish a shared consensus on the subject. Only by doing so can effective policies and practices be developed in the best interests of children, who are the primary stakeholders in this process. By synthesising past studies on school transition, this research aims to generate valuable insights for future investigations. This study aimed to analyse theses, articles, and papers related to the transition to primary school in Türkiye using the meta-synthesis method. The research questions were as follows: Considering the studies on starting primary school conducted in Türkiye,

1. What were the primary research objectives?
2. What types of research designs were employed?
3. What methodologies were used, and how was the research process structured?
4. Which sample groups were selected?
5. What data collection tools were used, and for what purposes?
6. What measures were taken to ensure credibility and dependability?
7. What were the key findings?
8. What recommendations were proposed?

Limitations of the Study

This research, which examines studies conducted by Turkish researchers between 2009 and 2020 in Türkiye, is limited to 47 studies. As this study specifically investigates the concept of transition to primary school, data that are not directly related to this topic were excluded from the analysis. This study is further limited to qualitative research within the scope of the meta-synthesis method. The main reason for this approach is that qualitative studies aim to provide an in-depth understanding of the context, capturing individuals' experiences, perceptions, and emotions regarding the transition to primary school in a comprehensive manner. As meta-synthesis seeks to construct a new framework by synthesising researchers' interpretations, only qualitative studies were included in this analysis. Quantitative studies, which primarily emphasise descriptive and statistical findings, were excluded, as qualitative research offers richer insights into participants' lived experiences and educational processes.

Methods

Research Design

Qualitative data offer deeper insights and enhance the interpretation of existing evidence derived from quantitative studies (Chrastina, 2018). Meta-synthesis is a secondary qualitative analysis method that systematically examines, explains, describes, and interprets qualitative findings. This method expands and advances qualitative knowledge (Tekindal & Tonbalak, 2021). However, meta-synthesis does not involve the secondary analysis of primary data from selected studies; instead, it focuses on synthesising and interpreting the findings of these studies. In other words, meta-synthesis entails the researcher's interpretation of the interpretations made by the original authors of the selected studies (Zimmer, 2006). In this study, meta-synthesis, a content analysis method, was used. Thematic analysis was chosen as the specific meta-synthesis approach to develop existing frameworks and generate new interpretations by identifying common themes across multiple studies. The themes identified were not limited to research objectives and recommendations but also covered a broader spectrum, including research methodologies, data collection tools, and reliability criteria. Meta-synthesis involves critically interpreting and evaluating qualitative research in a given field by identifying common themes and key patterns. It provides a comprehensive reference source by revealing both similarities and differences across studies, making it a valuable tool for researchers (Çalık & Sözbilir, 2014). Qualitative meta-syntheses are exploratory, descriptive, and interpretive in nature. They provide a better understanding of a phenomenon by connecting it to existing theoretical assumptions. This is achieved through the integration of multiple interrelated qualitative studies (Chrastina, 2018). As a result of meta-synthesis, new theories are put forward, conceptual models are developed, research gaps are identified, comprehensive insights are added to existing knowledge, and evidence is created for the current state of knowledge (Campbell et al., 2003). In meta-synthesis, a small number of studies are examined in depth, focusing exclusively on coding and synthesising the findings from previous qualitative research or mixed-method studies within a thematic framework (Dinçer, 2018; Polat & Ay, 2016). This approach relies on qualitative methods to construct deeper meaning through an interpretive approach (Erwin et al., 2011). The meta-synthesis method involves the following steps (Noah Jr, 2017): (1) Initial search: Locate relevant sources such as articles or research papers for inclusion in the study. (2) Preliminary analysis: Select documents that align with the objectives of the study. (3) Within-case coding: Analyse and identify themes or key topics that represent central ideas. (4) Cross-case synthesis: Highlight shared themes and patterns across different documents. (5) Results presentation: Present findings in a narrative format, going beyond numerical data. According to Sandelowski et al. (1997), the three different approaches to meta-synthesis are as follows: (1) integration of findings from multiple studies conducted by a single researcher in a related field, (2) synthesis of studies conducted by different researchers in a related field, and (3) quantitative summary of key elements in qualitative research. This study aimed to analyse studies on the transition to primary school conducted by Turkish researchers in Türkiye using qualitative methods and identify existing research trends in this field. Therefore, a meta-synthesis method was chosen to include studies conducted by different researchers.

Characteristics of Researchers

As with all research, understanding our positionality is essential, as it shapes our perspective on the data. The first and second authors are Türkiye-born scholars with expertise in childhood education. The first author specialises in early childhood education and has particular expertise in working with at-risk children. The second author specialises in primary education and literacy. Both authors recognise the significance of the transition from preschool to primary school and understand the potential challenges children may face during this process. This study was conducted collaboratively to ensure that the review remained contextually relevant and sensitive to the educational landscape in Türkiye. The combined expertise of both authors enriched the study, enabling a more comprehensive and well-rounded analysis.

Coding Steps

The following steps were followed in determining the studies to be included:

1. The Joanna Briggs Institute approach to qualitative synthesis was used as a guide to facilitate the selection of appropriate studies. The process involved developing search terms, conducting a systematic literature search, reviewing and selecting studies, appraising the quality of included studies, extracting data, and synthesising findings (Aromataris & Munn, 2020; Burston et al., 2023). Articles and theses published between 2009 and 2020 in the full text were searched using the keywords of “transition to school/primary school”, “starting school/primary school”, “primary school/school readiness”, “primary school/school preparedness”, “school maturity”, “transition to primary school”, and “school readiness” in the databases of National Thesis Centre of Higher Education Council, Google Scholar, ResearchGate, and ERIC. However, conference papers, posters, and thesis summaries were excluded from this study.
2. Following the database search, the researchers identified eight master’s theses, two doctoral theses, and 47 articles. However, 10 studies were excluded as eight were review articles, and two were conducted with school principals and preservice teachers.
3. Only studies employing qualitative research methods were included. Studies utilising quantitative research methods, such as exploratory, explanatory, and mixed-method research, were excluded.
4. A thematic synthesis approach was applied for the analysis. This step involved extracting and coding key concepts from each study, which reflected the transition to primary school. The final analysis was conducted on nine theses and 38 articles.
5. Some of the studies analysed in this research also addressed variables related to the 4+4+4 education system, primary literacy teaching, and school adaptation problems. However, the analysis in this study was limited solely to the transition to primary school.

Studies Included in the Meta-Synthesis

The code, author, year, title, publication type, research design, sample group, and data collection and analysis procedures of each study were analysed within the scope of meta-synthesis. Table 1 presents an overview of the general characteristics of the studies on the transition to primary school. As seen in Table 1, 38 of the studies are articles, two are doctoral theses, and seven are master’s theses.

Table 1. Characteristics of the studies analysed

	Code	Author	Type	Research Design Sample Group	Data collection and analysis
Studies included in the Meta Synthesis	S1	Öztürk & Bektaş (2018)	Article	Phenomenology Classroom and preschool teachers	Semi-structured interview Content analysis
	S2	Altın (2014)	Master thesis	Qualitative approach Mothers	Semi-structured interview Inductive analysis
	S3	Erbaşan & Erbaşan (2020)	Article	Case study Classroom teachers	Semi-structured interview Descriptive analysis
	S4	Arı (2015)	Master thesis	Case study School staff and children with special needs	Observation, interview, questionnaire, document analysis Descriptive analysis
	S5	Güzelyurt et al. (2019)	Article	Phenomenology Preschool teachers	Interview form Descriptive and content analysis
	S6	Koçyiğit (2014)	Article	Phenomenology Children	Mosaic approach Descriptive analysis

Table 1. Continued

Studies included in the Meta Synthesis	Code	Author	Type	Research Design Sample Group	Data collection and analysis
	S7	Pekdoğan (2018)	Article	Case study Classroom teachers	Semi-structured interview Content analysis
	S8	Güner & Kartal (2019)	Article	Nested single-case design Classroom teachers	Interview Descriptive analysis
	S9	Sezginsoy-Şeker (2015)	Article	Qualitative approach Classroom teachers	Structured interview Content analysis
	S10	Akbuğa (2018)	Master thesis	Qualitative approach Classroom and preschool teachers	Semi-structured interview Descriptive analysis
	S11	Kök et al. (2019)	Article	Case study Classroom teachers	Semi-structured interview Descriptive analysis
	S12	Ekinci & Bozan (2019)	Article	Phenomenology Classroom and preschool teachers	Semi-structured interview Content analysis
	S13	Taşçı & Dikici Sığırtmaç (2014)	Article	Case study Classroom and preschool teachers	Semi-structured interview Content analysis
	S14	Durmaz (2020)	Master thesis	survey model Classroom teachers and assistant directors	Interview Descriptive analysis
	S15	Koçak & İncekara (2020)	Article	Case study Classroom and preschool teachers	Semi-structured interview Content analysis
	S16	Kartal & Güner (2022)	Article	Phenomenology Classroom teachers	Semi-structured interview Content analysis
	S17	Çeliktürk Sezgin (2020)	Article	Qualitative approach Parents	Semi-structured interview Content analysis
	S18	Kutluca Canbulat & Yıldızbaş (2014)	Article	Descriptive survey Classroom and preschool teachers	Semi-structured interview Content analysis
	S19	Esen Aygün (2019)	Article	Phenomenology Classroom teachers	Semi-structured interview Moustakas' (1994) phenomenological data analysis
	S20	Sağlam & Besen (2015)	Article	Phenomenology Classroom teachers	Semi-structured interview Content analysis
	S21	Demir & Üstün (2018)	Article	Phenomenology Classroom teachers and parents	Semi-structured interview Descriptive analysis
	S22	Kahramanoğlu et al. (2015)	Article	Qualitative approach Classroom teachers	Semi-structured interview Descriptive analysis
	S23	Teke (2010)	PhD thesis	Survey Classroom teachers	Structured interview Descriptive analysis
	S24	Ari (2014)	Article	Case study Classroom teachers	Semi-structured interview Descriptive analysis
	S25	Koçyiğit (2009)	PhD thesis	Phenomenology Classroom teachers and parents	Semi-structured interview Descriptive analysis
	S26	Aslan & Çıkar (2019)	Article	Case study Classroom teachers and parents	Semi-structured interview Descriptive analysis

Table 1. Continued

Studies included in the Meta Synthesis	Code	Author	Type	Research Design Sample Group	Data collection and analysis
	S27	Pişirir & Ayar (2020)	Article	Case study Classroom and preschool teachers	Interview Descriptive analysis
	S28	Susar Kırmızı (2015)	Article	Case study Classroom teachers	Open-ended question form Content analysis
	S29	Yazıcı et al. (2016)	Article	Case study Parents	Semi-structured interview Content analysis
	S30	Altun (2018)	Article	Phenomenology Inservice and preservice preschool teachers and parents	Semi-structured interview Descriptive analysis
	S31	Işıkoğlu Erdoğan & Şimşek (2014)	Article	Case study Parents, teachers, and children	Semi-structured interview Content analysis
	S32	Yüksel et al. (2016)	Article	Qualitative approach Children	Document review Content analysis
	S33	Özdemir & Battal (2019)	Article	Phenomenology Classroom teachers and parents	Semi-structured interview Descriptive analysis
	S34	Yapıcı & Ulu (2010)	Article	Qualitative approach Classroom teachers	Interview Descriptive analysis
	S35	Celebi Oncu & Unluer (2013)	Article	Qualitative approach Parents	Structured interview Descriptive analysis
	S36	Akman et al. (2017)	Article	Phenomenology Classroom and preschool teachers	Open-ended question form Content analysis
	S37	Uzun & Alat (2014)	Article	Phenomenology Classroom teachers	Semi-structured interview Content analysis
	S38	Buldu & Er (2016)	Article	Qualitative approach Classroom teachers, parents, and school manager	Semi-structured interview Grounder theory
	S39	Şahin et al. (2013)	Article	Qualitative approach Classroom and preschool teachers	Semi-structured interview Descriptive analysis
	S40	Parlak (2019)	Master thesis	Case study Parents and classroom teachers	Semi-structured interview Descriptive + content analysis
	S41	Erkan et al. (2018)	Article	Phenomenology Children	Semi-structured interview + child drawings Qualitative analysis
	S42	Sak et al. (2016)	Article	Qualitative approach Children	Semi-structured interview Content analysis
	S43	Kotaman (2014)	Article	Phenomenology Classroom teachers	Interview Qualitative analysis
	S44	Kumru (2014)	Article	Case study Classroom and preschool teachers	Interview Qualitative analysis
	S45	Toprakçı & Gülmez (2018)	Article	Qualitative approach Parents	Semi-structured interview Content analysis
	S46	Gürbüz (2019)	Master thesis	Phenomenology Classroom teachers	Interview Content analysis
	S47	İbileme (2019)	Master thesis	Phenomenology Classroom teachers and parents	Semi-structured interview Inductive analysis

Table 1. Continued

	Year	Year	F
Publication Year	2009	2015	5
	2010	2016	4
	2011	2017	1
	2012	2018	7
	2013	2019	10
	2014	2020	5
	Participants	Participants	f
Sample Type	Children	Preschool teachers	11
	Parents	Classroom teachers	35
	Individuals with special needs	Preservice teachers	1
	School administrators		
	The number of participants	The number of participants	f
Sample Size	1-50	151-200	1
	51-100	201-250	1
	101-150	251+	1

*The total number of sample types is higher than the number of studies, as some studies sampled different groups of individuals.

Data Analysis

The content analysis method was used to decode and analyse the qualitative data collected in this study. Content analysis is defined as the systematic coding of quantitative or qualitative data within the framework of specified themes and categories (Fraenkel et al., 2012). In this study, the data analysis process was conducted in two stages: coding and reporting.

Data coding process

First, each study included in this analysis was coded as S1, S2, S3, ..., and S47 to avoid redundancy. These numerically coded studies were thoroughly reviewed, and the extracted data were recorded in MS Word. The recorded data were then re-examined, unnecessary parts were removed, and a summary of each study was organised into tables as units of analysis. This table consisted of two parts (Table 1a and Table 1b). The first part of the table included (a) the study code, (b) the publication year, (c) the sample type, (d) the sample size, (d) the purpose, (e) the research design, (f) data collection tools, (g) data analysis methods, and (h) credibility and dependability measures. The second part of the table consisted of 11 sections under the headings of (a) the results of the study and (b) recommendations. These units were treated as themes and analysed individually in line with the research questions. Categories were created for each theme.

Although the researchers initially analysed the studies included in the meta-synthesis independently, they regularly convened to review the emerging categories and the codes under the categories. As a result of this systematic analysis, 23 categories were identified under seven overarching themes. These themes and categories are presented in Table 2.

Table 2. Themes and categories derived from the analysis

1. Purpose of Transition to Primary School Studies
1.1. Revealing opinions
1.2. Comparing opinions
1.3. Investigating expectations/experiences
1.4. Determining the impact
1.5. Assessing the situation
1.6. Suggesting a solution
2. Data Collection Tools in Transition to Primary School Studies
2.1. Structured interview form
2.2. Semi-structured interview form
2.3. Unstructured interview form
2.4. Other (observation, document review, etc.)
3. Research Types in Transition to Primary School Studies
3.1. Studies using a qualitative approach but not explicitly stating the research design
3.2. Studies using a phenomenological design
3.3. Studies using a case study design
3.4. Other (interpretative qualitative research/narrative research)
4. Credibility and Dependability in Transition to Primary School Studies
4.1. Credibility measures
4.1.1. Detailed reporting
4.1.2. Member checking
4.1.3. Not including trustworthiness measure
4.2. Dependability measures
4.2.1. Peer debriefing
4.2.2. Direct quotations
4.2.3. Dependability coefficient calculation
4.2.4. Not including dependability measure
5. Data Analysis Methods Used in Transition to Primary School Studies
5.1. Content analysis
5.2. Descriptive analysis
5.3. Content analysis + Descriptive analysis
5.4. Studies using qualitative analysis without clearly stating the method
5.5. Other (inductive analysis, theory-building method, etc.)
6. Results of Transition to Primary School Studies
7. Recommendations in Transition to Primary School Studies
7.1. Recommendations for Practice
7.2. Recommendations for Future Studies

Reporting data

This study reports data in line with the identified themes. First, the data for each theme were organised into tables or graphs. These tables included categories, study codes, and frequencies to facilitate the visual interpretation and comprehension of the findings. After a general explanation was provided under each table or graph, the similarities and differences observed within the relevant theme unit were expressed with direct quotations to support the findings.

Credibility and Dependability of the Study

Special attention was paid to the following aspects to ensure the credibility and dependability of this study:

- A detailed reporting method was used to enhance the reliability of the findings. The stages of coding, category formation, and theme development were explained in detail. The data analysed were supported with tables and direct quotations. In particular, the step-by-step process of thematic analysis and the consensus-building approach between the researchers were clearly documented. This approach enhances the transparency of the study and allows for replication by other researchers.
- The publication year, sample size, research design, and data analysis methods of the studies analysed were presented in tables.
- The data coding process was conducted meticulously to ensure the reliability of the study. The researchers independently coded all 47 studies and compared their findings. Miles and Huberman's (1994) formula was used to assess coding consistency, yielding an inter-coder agreement coefficient of .90. This value indicates a high level of agreement in the coding process. Discrepancies identified during the coding process were discussed in regular meetings, and the final codes were determined through consensus.
- To avoid coding errors, data analysis was conducted over an extended period spanning from March 2020 to September 2020. All obtained data were summarised in writing.
- To enhance the reliability and validity of the study, two expert academics reviewed the study. The experts provided detailed feedback on the meta-synthesis, data analysis, creation of themes, and interpretation of the findings. In line with their feedback, the coding and analysis processes were reviewed, necessary revisions were made, and the findings were reported more systematically. This process improved the methodological rigour of the study and strengthened the reliability of the results obtained.
- A reflective approach was adopted to minimise the influence of researchers' personal perspectives and ensure objectivity in the findings. Throughout the research process, the potential impact of the researchers' personal experiences, perspectives, and biases on the data analysis was constantly assessed. To mitigate subjectivity in interpreting the findings, the researchers were encouraged to critically examine their positions, and reflexive notes were taken at each stage. This approach was deliberately implemented to enhance the credibility of the study and ensure a more objective interpretation of the findings.

Findings

This section includes the purpose, research design, data collection tools, data analysis methods, credibility and dependability measures, results, and recommendations of the studies on the transition to primary school.

*Purpose of Transition to Primary School Studies***Table 3.** Purpose of transition to primary school studies

Aim		Research Codes
Revealing opinions	Revealing the opinions of primary school teachers about children who start school knowing how to read and write from the preschool period	S1, S5, S9, S10, S11, S12, S14, S15, S18, S20, S21, S22, S24, S28, S36, S37, S44, S46
	Examining the views of parents on their children's primary school readiness and maturity	S35
	Examining the social adaptation problems experienced by inclusive students in the transition from preschool to primary school in terms of family and teacher views	S40, S47
	Revealing first-year students' perceptions of their preschool and primary school experiences	S41
	Examining and comparing the opinions of parents, preschool teachers, and preservice teachers on school readiness	S30, S39
Investigating expectations/experiences	Investigating the expectations of primary school teachers from preschool education in the preparation process for primary school	S2, S7, S42, S43
	Examining primary school teachers' experiences in being prepared for primary school entrants	S16, S17, S19, S38, S45
Determining the impact	Determining the effects of the kindergarten curriculum on the readiness levels of first-grade students	S4, S13, S23
Assessing the situation	Examining the school readiness of 60-65-month-old students attending the first grade of primary school	S26, S32
	Examining the adaptation of children, parents, and teachers in the process of starting primary school	S8, S25, S27, S31, S33, S34
Suggesting a solution	Identifying the difficulties experienced by children who transitioned from preschool to primary school and the solutions to these difficulties through the eyes of their families	S3, S6, S29

When the studies included in the meta-synthesis were examined in terms of their research objectives, the following themes were identified: "revealing opinions, comparing opinions, investigating expectations/experiences, determining the impact, assessing the situation, and suggesting a solution". A significant number of studies focused on revealing the opinions of primary school teachers about children who started school already knowing how to read and write (N = 18), presenting the expectations of preschool teachers (N = 4), and sharing the experiences of primary school teachers who had a primary role during the transition to primary school (N = 5).

Some studies examined the challenges children faced during the transition from preschool to primary school and proposed solutions to these challenges from the perspective of parents (N = 3). Some studies explored parents' opinions on the transition to primary school and school adaptation of both normally developing children (N = 3) and children with special needs (N = 2), while comparing their opinions with those of other stakeholders.

Additionally, some studies investigated the effect of preschool education curricula on the readiness level of children starting primary school (N = 3). Some evaluated the adaptation of children who started primary school at an early age (N = 2). Some analysed the adaptation of the parents and teachers of these children to the transition to primary school (N = 6). These studies shed light on the mysteries of the transition to primary school.

*Data Collection Tools in Transition to Primary School Studies***Table 4.** Data collection tools in transition to primary school studies

Data Collection Tools	Research Codes
Semi-structured interview form	S1, S2, S3, S7, S10, S11, S12, S13, S15, S16, S17, S18, S19, S20, S21, S22, S24, S25, S26, S27, S29, S30, S31, S33, S35, S37, S38, S39, S40, S41, S42, S45, S47
Structured interview form	S4, S5, S8, S9, S14, S23, S34, S35, S43, S44, S46
Other (observation, document review, etc.)	S4, S6, S32, S41
Unstructured interview form	S28, S36

According to Table 4, semi-structured interview questions, used in 33 studies, were the most commonly used data collection method. Unstructured interview forms were used in S28 and S36. Additionally, structured questions, such as “How would you define ...? What skills do you think he/she should have?” were used in 11 studies. Four studies used alternative data collection techniques, such as observation and document analysis.

The majority of the studies analysed in our study used semi-structured interviews as data collection tools. Interview methods provided an in-depth understanding of the experiences of teachers, parents, and children during the transition to primary school, as well as the challenges they encountered. In particular, interviews with teachers highlighted the criteria they prioritise when assessing children’s competencies in academic and social-emotional development. However, incorporating more child-centred data collection tools—such as picture analysis, children’s drawings, and play-based observations—would offer a more direct reflection of children’s experiences. These approaches could enhance our understanding of how the school transition process is shaped from the child’s perspective.

*Research Types in Transition to Primary School Studies***Table 5.** Research design in the studies on transition to primary school

Research Designs	Research Codes
Studies using a phenomenological design	S1, S5, S6, S12, S16, S19, S20, S21, S25, S27, S30, S33, S36, S37, S41, S43, S46, S47
Studies using a case study design	S3, S4, S7, S8, S11, S13, S15, S24, S26, S28, S29, S31, S40, S44
Studies using a qualitative approach but not explicitly stating the research design (Qualitative approach/qualitative research methodology/a descriptive study in a survey design/descriptive survey model)	S2, S9, S10, S14, S17, S18, S22, S23, S32, S34, S35, S39, S42
Other (interpretative qualitative research/narrative research)	S8, S5

As seen in Table 5, 13 studies employed a qualitative approach without explicitly stating the research design. In these studies, the methodology was described using general terms, such as “qualitative research methodology” or “qualitative approach”, “descriptive study in a survey model”, and “descriptive survey method”. Additionally, 18 studies utilised a phenomenological design, while 14 studies were conducted using a case study design. Furthermore, two studies adopted alternative qualitative methods, such as “interpretive qualitative research” and “narrative research.”

It was observed that most of the 47 studies analysed in this meta-synthesis employed phenomenology and case study methods. The preference for these methods allowed for an in-depth exploration of the transition to primary school through individuals’ experiences. For example, qualitative research methods have provided valuable insights into teachers’ and parents’ perceptions of

school readiness and how these perceptions influence children's academic and social adjustment. However, there is a need for more longitudinal research to better understand the long-term impact of large-scale policy changes. Additionally, further mixed-method studies are necessary to examine the influence of the overall school system and environmental factors, rather than focusing solely on individual experiences.

Credibility and Dependability in Transition to Primary School Studies

Table 6. Credibility and dependability in transition to primary school studies

Credibility Measures	Research Codes
Not including trustworthiness measure	S7, S9, S10, S11, S13, S14, S15, S16, S22, S23, S28, S30, S31, S32, S35, S37, S39, S41, S42, S44, S45, S47
Member checking	S1, S2, S12, S19, S21, S24, S26, S29, S34, S38, S43
Detailed reporting	S1, S6, S8, S19, S24, S26, S36, S46
Dependability Studies	Research codes
Dependability coefficient calculation	S1, S5, S6, S7, S8, S9, S15, S16, S18, S20, S22, S26, S28, S30, S31, S33, S34, S36, S39, S40, S41, S46, S47
Peer debriefing	S1, S2, S8, S9, S10, S11, S12, S13, S17, S19, S20, S23, S26, S28, S33, S36, S38, S39, S40, S43, S47
Direct quotations	S1, S3, S4, S5, S6, S8, S12, S17, S18, S20, S21, S25, S27, S33, S36, S40, S45
Not including dependability measure	S14, S24, S32, S41, S42, S44
Others	S29, S35, S37

As seen in Table 6, the data were reported in detail in eight of the 47 studies to ensure credibility, and the findings were confirmed by the participants in 11 studies to ensure member checking. In 22 studies, there were no elements related to credibility.

When the studies included in the meta-synthesis were examined in terms of dependability, peer debriefing was conducted in 21 studies, and the consistency coefficient in the data analysis was calculated in 23 studies using the Miles and Huberman formula (1994). Six studies did not include any dependability measures, while three studies employed alternative dependability strategies. Additionally, participant statements were directly quoted in 17 studies.

The studies analysed in this meta-synthesis adopted various approaches in terms of reliability and validity criteria. In particular, studies involving teacher and parent interviews frequently employed direct quotations and participant verification (member checking) methods. While these methods enhance the reliability of perceptions related to the school transition process, it is important to acknowledge that children's experiences vary individually. Therefore, incorporating multiple data sources is essential to obtain a more comprehensive understanding of the transition process. For example, instead of solely relying on teachers' statements to assess school readiness, a more holistic analysis could be achieved by integrating observations of children before entering primary school, administering developmental tests, and parent questionnaires. Such an approach would provide more well-rounded and insightful findings.

*Data Analysis Methods Used in Transition to Primary School Studies***Table 7.** Data analysis methods used in the studies on transition to primary school

Data Analysis Methods	Research Codes
Content analysis	S1, S7, S9, S12, S13, S15, S16, S17, S18, S20, S28, S29, S31, S32, S36, S37, S42, S45, S46
Descriptive analysis	S3, S4, S6, S8, S10, S11, S14, S21, S22, S23, S24, S25, S26, S27, S30, S33, S34, S35, S39
Studies using qualitative analysis without clearly stating the method	S41, S42, S43
Other (inductive analysis, grounded theory, etc.)	S2, S38, S47
Content analysis + Descriptive analysis	S5, S40

When the studies included in the meta-synthesis were examined in terms of data analysis, it was determined that content analysis was used in 19 studies. Two studies combined both content analysis and descriptive analysis, while three studies employed qualitative analysis without explicitly specifying the analysis method. Additionally, descriptive analysis was used in 19 studies, and three studies utilised other analysis methods such as inductive analysis and grounded theory.

*Results of Transition to Primary School Studies***Table 8.** Results of transition to primary school studies

Results	Research Codes
The age factor in starting school	S9, S14, S15, S18, S20, S21, S22, S24, S26, S27, S31, S33, S35, S36, S37, S46
The impact of preschool education	S1, S4, S10, S23, S30, S31, S36, S39, S40
Problems with starting primary school and the reasons for these problems	S3, S9, S21, S30, S36, S39, S40, S47
Inadequacies in preparation for primary school	S2, S5, S16, S18, S31, S36, S47
Primary school adaptation program	S8, S9, S13, S28, S37
Cooperation in school readiness	S7, S38, S39, S40, S45
Role of the environment	S2, S7, S12, S21, S30
Preschool education's being compulsory	S12, S20, S25, S37, S46
Teacher's role	S15, S34, S36, S44
The meaning of primary school for the child	S4, S6, S41, S42
The effect of literacy on transition	S11, S19, S36, S39
Expectations of primary school teachers	S7, S8, S34, S47
Indicators of readiness for primary school	S36, S38, S43, S44
Parents in starting school	S17, S27, S29
Strategies for facilitating the transition	S8, S39, S47
Teaching roles of the parents	S17, S29, S36
Negative perceptions about primary school	S6, S30, S45
The meaning of primary school for the teacher	S4, S25, S39
Information resources regarding primary school	S6, S42
The meaning of primary school for the parents	S17
Adaptation problems related to starting school	S32
Being a parent of a child with special needs	S2

When the studies included in the meta-synthesis were examined in terms of their results, as seen in Table 8, the most frequently addressed factor in the transition to primary school was the school starting age (N=16). This was followed by the impact of preschool education on the transition to primary school (N=9), problems associated with starting primary school and their underlying causes (N=8), and inadequacies in preparing children for primary school (N=7).

Additionally, several studies emphasised the necessity of a primary school adaptation program (N=5), the importance of cooperation in ensuring readiness for primary school (N=5), and the inclusion of preschool education in compulsory education (N=5). Other frequently examined factors included the role of the teacher (N=4) and parents (N=3), the indicators of readiness for primary school (N=4), the meaning of primary school for the child (N=4), the expectations of the teacher (N=4), and the impact of knowing how to read and write on the transition to primary school (N=4). Only a few studies reported results on strategies for facilitating the transition to primary school (N=3), information resources regarding primary school (N=2), teaching roles of parents (N=3), the meaning of primary school for teachers (N=3) and parents (N=1), the differences experienced by parents of children with special needs (N=1), negative perceptions about primary school (N=3), and adaptation problems related to starting school (N=1).

Recommendations in Transition to Primary School Studies

Table 9. Recommendations in transition to primary school studies

Recommendations	Research codes
Recommendations for Practice	Contact meetings
	S1, S4, S5, S7, S9, S11, S13, S15, S17, S21, S24, S25, S27, S28, S33, S36, S37, S38, S40, S47
	Curriculum development
	S5, S7, S12, S13, S14, S15, S21, S22, S23, S24, S25, S27, S28, S36, S38, S41, S43, S45
	Cooperation
	S5, S7, S11, S15, S16, S20, S23, S25, S26, S27, S31, S34, S36, S39, S40, S45, S46, S47
	Evaluation
	S4, S10, S14, S15, S18, S20, S21, S22, S23, S24, S25, S26, S28, S33, S45
	The importance of preschool education
	S3, S20, S23, S25, S26, S28, S33, S37, S43, S44, S46
	Adaptation process
	S13, S17, S25, S28, S32, S40, S46, S47
	Adult role
	S6, S17, S19, S28, S30, S33, S42, S45
	Age factor
	S3, S14, S20, S26, S28, S33, S46
Recommendations for Future Studies	Undergraduate education
	S1, S5, S18, S27, S34, S38
	Disadvantaged groups
	S1, S14, S25, S36, S46
	The role of stakeholders
	S12, S25, S28, S38, S42
	The importance of literacy
	S3, S12, S25, S28
	Comparative studies
	S6, S9, S10, S11, S17, S21, S23, S33, S38, S40, S45, S47
	Studies with more participants
	S2, S13, S27, S28, S31, S34, S38, S40, S47
	Quantitative studies
	S8, S33, S38, S40, S44, S47
	The use of different data collection tools
	S6, S11, S19, S28, S33, S37
	Monitoring studies
	S23, S31, S40, S42, S44
	Practical studies
	S2, S21, S47
	Studies on teacher training
	S16, S30, S34
	Following the literature
	S16, S28, S40
	Developing the school readiness index/test
	S23, S38, S43
	In-depth studies
	S27, S43, S45
	Age studies in terms of various variables
	S22
	Studies regarding children with special needs
	S2

When the recommendations of the studies included in the meta-synthesis were examined, as shown in Table 9, it was determined that these recommendations focused on both current practices and future research directions.

The recommendations for practice to improve the transition to primary school included organising contact meetings (N=20), developing transition programs (N=18), ensuring cooperation between stakeholders (N=18), developing assessment and evaluation tools to use during the transition to primary school (N=15), drawing attention to the importance of preschool education (N=11), implementing adjustments in the school adaptation process (N=8) and in the school starting age (N=7). Additional recommendations included paying attention to the roles of adults (N=8) and stakeholders (N=5), paying special attention to include the subject of transition to primary school during undergraduate education (N=6), paying attention to disadvantaged groups (N=5), and, finally, examining the impact of starting school knowing how to read and write (N=4).

The recommendations for future studies included conducting comparative studies (N=12), quantitative studies (N=6), and applied studies (N=3), including more participants in studies (N=9), conducting studies by using different data collection tools (N=6), investigating the age factor in terms of different variables (N=1), developing a school readiness index/test (N=3), conducting follow-up studies (N=5) and in-depth studies (N=3), conducting studies on teacher training (N=3) and children with special needs (N=1), and following the literature (N=3).

Discussion

This study used a meta-synthesis approach to qualitatively synthesise the results obtained through content analysis of studies conducted within a qualitative framework to examine the transition to primary school in Türkiye. Accordingly, the results from the 47 studies analysed were summarised and discussed below.

The study identified key factors affecting the transition to primary school. These include the importance of starting age, the effect of preschool education, challenges encountered during the transition, and inadequacies in preparation. The findings highlighted the necessity of a primary school adaptation program, the importance of cooperation in readiness for primary school, the necessity of preschool education, the role of the environmental factors in the transition to primary school, the roles of teachers and parents, the indicators of readiness for primary school, the meaning of primary school for children, teachers' expectations, and the impact of prior literacy skills on the transition to primary school. However, only a few studies addressed strategies for facilitating the transition to primary school, the availability of information resources, the teaching roles of parents, the meaning of primary school for teachers and parents, the unique experiences of parents of children with special needs, negative perceptions about primary school, and adaptation problems associated with starting school.

According to Deveci and Aykaç (2018), the problems regarding the school starting age in Türkiye emerged with the implementation of the 4+4+4 education system introduced despite criticisms from many educators. This is because children are forced to learn how to read and write by starting primary school at the age of 5. However, considering individual developmental differences among children at this age, even a one- or two-month gap can be crucial. Thus, it comes as no surprise that the 5-year-old school starting age has led to various problems. As demonstrated in Table 9, several studies (S3, S9, S21, S30, S36, S39, S40, and S47) emphasised the challenges associated with early school entry and the underlying reasons, including developmental readiness and curriculum incompatibility. One of the main reasons for these problems is the lack of curricular adjustments despite lowering the school starting age and the maintenance of a curriculum based on literacy teaching. Lowering the school starting age also poses risks to preschool education. Children who receive a well-structured preschool education and undergo a quality early learning process tend to adapt more easily to formal schooling and achieve higher academic success. The studies analysed in this meta-synthesis highlight that preschool education plays a crucial role in children's transition to primary school. However, the non-compulsory nature of pre-primary education in Türkiye, along with regional disparities, results in unequal opportunities for children entering this process. In particular, children from rural areas and families with lower socio-economic status face limited access to preschool education. Additionally, many parents lack sufficient knowledge about how to prepare their children for primary school. As a result, these children are more likely to experience difficulties such as delays in learning processes, setbacks in social-emotional development, and challenges in adapting to the school environment.

To promote equal opportunities in education, preschool education should be expanded, and state-supported programs should be increased, ensuring that all children, regardless of their socio-economic background, receive adequate preparation for primary school. This finding aligns with the results presented in Table 9, where studies (S4, S10, S23, and S39) highlighted the positive impact of preschool education on children's readiness for primary school and their academic success. However, some studies report that younger children do not perform as well as their peers in the first years of school (for example, Crosser, 1991) while others claim that school entry age has little or no impact on academic performance (for example, DeMeis & Stearns, 1992). Additionally, research suggests that multiple interacting factors significantly influence school readiness beyond age alone. For example, some studies on gender differences suggest that younger boys are perceived to be at greater risk of academic failure than older boys or girls (Gredler, 1980). Young children from high socioeconomic backgrounds tend to be perceived as performing better than younger children from lower socioeconomic backgrounds (Shepard, 1997). Young children who attended preschool are perceived to be as competent as their older peers (Gullo & Burton, 1992). Teachers tend to treat younger children differently from their older peers (DeMeis & Stearns, 1992). These findings show that age alone is not a definitive predictor of children's success in starting school (Dockett & Perry, 2002). School readiness is influenced not only by the individual development of the child but also by educational policies, family support, and environmental factors. The studies analysed indicate that the non-compulsory nature of preschool education in Türkiye contributes to significant inequalities in school readiness among children. In particular, children from rural areas and low socioeconomic backgrounds face greater challenges in accessing early educational opportunities, which hinders their ability to develop essential cognitive, social, and emotional skills before starting primary school. As a result, some children enter primary school without being adequately prepared for its academic and social demands, making their adaptation process more difficult. Expanding preschool education and making it compulsory would be a crucial step towards ensuring that all children start school on equal footing.

Questions about the role of early childhood services in preparing children for school underlie the growing emphasis on accepting children as "ready" for school. Surveys among preschool and classroom teachers reveal both similarities and differences in their expectations of school readiness (Dockett & Perry, 2002). Hains et al. (1989) reported that classroom and preschool teachers have different expectations of what is required for a successful transition to school. While preschool teachers tend to prioritise functionally relevant classroom skills, primary school teachers focus more on specific abilities. Parents and teachers also differ in their views on what is most important for children starting school. This contrast is clearly reflected in Table 4, where studies (S30 and S39) show that parents tend to emphasise academic skills, whereas teachers place greater importance on social-emotional readiness. Lewit and Baker (1995) reported that over 75% of teachers surveyed identified physical health, adequate rest, and proper nutrition as essential factors for school readiness, while parents, in contrast, focused primarily on academic skills. However, both groups agreed on the importance of social skills, such as communication, enthusiasm, and understanding social norms like waiting in line. More recent studies conducted in Australia further support these findings, demonstrating that parents view early childhood services as essential for fostering children's social and emotional development, increasing school readiness, and providing a secondary assessment of academic skills (Lockwood & Fleet, 1999; Page et al., 2001). The findings of this meta-synthesis also showed that families predominantly focused on academic skills (e.g., recognising numbers and letters, holding a pencil) when evaluating their children's readiness for primary school. However, the literature underscores that social-emotional development is just as crucial as academic skills in ensuring a smooth transition to school. In Türkiye, guidance programs that actively involve parents in the transition to primary school remain limited. Strengthening family-teacher cooperation could help parents develop a more comprehensive understanding of school readiness, allowing children to be better prepared for this transition. For instance, awareness-raising seminars and informative materials for families could provide them with a more holistic perspective on their children's school readiness. The importance of collaboration between early childhood services and schools in ensuring a successful transition to primary education has long been recognised (Parr et al.,

1993). However, this collaboration can be hindered by differing priorities among stakeholders (Dockett & Perry, 2002). For example, parents who expect regular updates on their child's academic progress may feel disappointed when teachers inform them about their child's adjustment to school organisation and their emotional responses to school.

Similarly, teachers who are eager to discuss children's responses to school may feel disappointed when parents prioritise academic milestones. When different criteria are used to assess children's school readiness, conflicting judgments are likely to arise. Without effective communication tools to bridge these differences between parents and teachers, opportunities for meaningful collaboration may be lost, leading to confusion and anxiety instead of constructive cooperation (Dockett & Perry, 2004). Although teachers play a critical role in the transition to primary school, the studies analysed in this meta-synthesis indicate that teachers in Türkiye do not receive sufficient guidance and training support for this process. Primary school teachers demonstrate varying perspectives on school readiness, which complicates children's adaptation to school. While some teachers emphasise academic skills, others prioritise social and emotional development. This inconsistency highlights a lack of standardisation in education, resulting in children experiencing different transition processes depending on their teacher. Thus, teacher training programs should incorporate more comprehensive content on school readiness, child development, and transition strategies. Providing structured training in these areas would help standardise expectations and improve the overall management of the transition process.

Considering the studies included in the meta-synthesis, their main recommendations for practice focused on holding contact meetings, developing assessment and evaluation tools to use during the transition to primary school, carrying out curriculum development studies, ensuring cooperation among stakeholders, highlighting the importance of preschool education, making adjustments to school starting age and school adaptation processes, integrating the subject of school transition into undergraduate teacher training curricula, paying attention to disadvantaged groups, recognising the roles of stakeholders and adults, and focusing on the impact of starting school with literacy. These recommendations are comprehensively detailed in Table 10, which highlights practical suggestions such as organising contact meetings (S1, S4, and S7) and curriculum development (S5, S7, and S41) to enhance the transition process for children, parents, and educators. Family cooperation plays a crucial role in preparing children for primary school (Şahin et al., 2013). Education outcomes impact all elements of the education system. Table 9 further supports this observation, highlighting stakeholder collaboration (S7 and S38) and the role of preschool education in shaping positive educational experiences (S3, S20, and S33). The key stakeholders in education include teachers, administrators, NGOs working in education, research and development personnel from the Directorate of National Education, and families (Bay et al., 2013). Among the challenges related to school transition, stakeholder problems ranked third, including parental indifference, teacher in-service training, the attitude of administrators, teacher appointments, and teachers' perceptions of respect and professional status. These stakeholder challenges are explicitly addressed in Table 9, where studies (S7, S31, and S45) emphasised issues such as parental indifference, lack of teacher training, and administrative barriers affecting school transitions. Parental indifference is the most significant issue (Deveci & Aykaç, 2018). However, researchers and teachers emphasise that family engagement is the key factor in making the transition to primary school easier and more effective (Şahin et al., 2013). Curricular issues in primary education were also found to negatively impact overall education quality (Deveci & Aykaç, 2018).

Considering the recommendations for future studies, it was recommended to conduct follow-up, in-depth, and comparative studies, include more participants in research, conduct studies using different data collection tools, conduct quantitative research and applied studies, investigate teacher training and its role in school transitions, focus on children with special needs, develop school readiness indices/tests, keep up with the literature, investigate the age factor in terms of various variables. Most of the studies analysed in this study recommended the development of tests for readiness. However, while assessing what children know and what they are ready to learn next is a natural part of good

teaching, the use of readiness tests to prevent school entry may lead to unintended consequences for several reasons. First, it excludes low-performing children who most need learning opportunities provided in schools. Second, restricting school entry for less-prepared children increases curriculum demands, making kindergarten expectations misaligned with the developmental capacities of 5-year-olds. Finally, the growing emphasis on school readiness has fuelled the “red sweater” trend, where affluent parents delay their high-achieving child’s entry into kindergarten to gain a competitive advantage. The recommendations for further studies, including the development of readiness tests and longitudinal studies, are detailed in Table 10, where suggestions such as conducting comparative studies (S6 and S9) and developing readiness indices (S23 and S38) are prominently featured. Moreover, readiness tests may lack the necessary technical rigour required to make reliable predictions or placements (Shepard, 1997).

Given that children whose school entry is delayed are often cared for at home or receive less formal preschool education, they may benefit from a longer experience in relatively enjoyable environments (Dee & Sievertsen, 2015). In developed countries, delaying formal school entry has become increasingly common. These delays may confer developmental advantages through both relative and absolute age mechanisms. However, most studies indicate that delaying school entry does not provide longer-term educational or economic benefits (Dee & Sievertsen, 2015).

Conclusion

This study is one of the first studies to systematically analyse qualitative research on the transition to primary school in Türkiye and integrate its findings through meta-synthesis. In the existing literature, the transition to primary school is generally analysed through individual studies, and the results of different studies have not been evaluated in a holistic framework. This study makes an important contribution to the literature by synthesising the common findings of multiple studies and systematically revealing the role of school readiness, teacher-parent cooperation and educational policies in the transition to primary school. In particular, by showing how regional inequalities in access to preschool education in the Turkish context affect the transition to primary school, it provides guiding implications for policy makers.

This study synthesised qualitative research on the transition to primary school in Türkiye through a meta-synthesis approach, highlighting key themes and findings. The results underline the importance of school starting age, the role of preschool education, and the various challenges encountered during this transition period. Problems such as insufficient preparation programs, curriculum rigidity, and differing expectations among stakeholders were consistently reported. This study revealed that external factors such as the educational environment and teacher-parent cooperation are as influential as children’s individual characteristics in determining school readiness and shaping the transition to primary school. In particular, the non-compulsory nature of preschool education and regional disparities lead to significant inequalities in school readiness. These findings underscore the need for a holistic and inclusive approach that considers both child-related and environmental factors to ensure a smooth transition.

One of the most prominent themes identified was the positive influence of preschool education on children’s readiness for primary school and their long-term academic success. Nevertheless, disparities in access to preschool education and non-compulsory preschool policies in Türkiye continue to exacerbate readiness inequalities. The study also reveals that cooperation among stakeholders and the alignment of expectations significantly enhance children’s adaptability to formal schooling.

Based on these insights, it is evident that transitioning to primary school is a multifaceted process that requires comprehensive strategies that address educational policies, parental involvement, and school practices. Policies to standardise early childhood education and promote inclusive practices are essential. By aligning the roles of parents, teachers, and policymakers, the potential negative effects of an uncoordinated transition can be mitigated. The way parents communicate information about their children's transition to school through teacher interactions plays a crucial role. Parents serve as the primary observers of children's healthy transition. Therefore, further research is needed to explore the perceptions, attitudes, and knowledge of both parents and teachers regarding the transition to primary school.

In the existing literature, the transition to primary school is typically examined through the lens of individual factors, particularly children's cognitive and academic competencies. However, this study differs from previous research by demonstrating that school transition is not only a matter of individual maturity but is also shaped by multiple variables, including educational policies, teacher approaches, and family involvement. Moreover, this study goes beyond analysing school readiness as a concept and uncovers contradictions in the roles of teachers and parents in the transition process. In particular, the variation in teachers' perceptions and expectations regarding school readiness is linked to the way educational policies are implemented in Türkiye. In this respect, the study introduces a discussion on teacher-parent interaction and policy influence, which are often overlooked in the literature. The results of this study contribute not only to the theoretical literature but also provide concrete recommendations for shaping education policies. The results suggest that making preschool education compulsory would create a more equitable transition to primary school. Additionally, the emphasis on the need for teachers to collaborate more actively with parents during this transition could inform teacher training curricula. Despite the lowering of the school starting age, the study reveals that curricula and teacher training programs have not been sufficiently adapted to accommodate this change. In this context, the findings offer important insights for policymakers and education administrators, emphasising the need to approach the transition to primary school as a multidimensional process requiring coordinated reforms across different levels of the education system.

Recommendations

To facilitate the transition process, several recommendations for practice and future research emerge from this study. First, strengthening communication among stakeholders including parents, teachers, and school administrators through regular contact meetings and workshops is vital. Developing flexible and dynamic primary school transition curricula, tailored to varying developmental levels, will better accommodate children's diverse needs. Ensuring stability in preschool and primary school curricula is necessary. However, when revisions are required, the opinions of all stakeholders should be gathered during compulsory pilot implementations and curriculum development.

Compulsory preschool education, supported by sufficient infrastructure and resources, should be prioritised to provide equitable readiness opportunities. Additionally, enhancing teacher training on transition strategies and readiness indicators will better equip educators to support children more effectively. Increased collaboration between preschool and primary school educators can foster consistency in expectations and pedagogical approaches. Finally, fostering a culture where the transition to school is viewed as a shared societal responsibility involving educational institutions, families, and broader policy frameworks can create a supportive environment where every child embarks on their educational journey with confidence and adequate preparation. Considering that the family-child-teacher relationship plays a key role in the child's life, importance should be given to organising activities that actively involve families in the education system and conducting awareness-raising seminars to strengthen parental engagement.

For future research, longitudinal studies tracking the long-term effects of readiness factors on academic and social outcomes would offer valuable insights. Comparative analyses focusing on regional and socio-economic disparities in school readiness can guide targeted interventions. Furthermore, developing reliable school readiness indices and assessment tools specific to Türkiye's educational context could enhance diagnostic and preparatory processes.

Recommendations for future research include a deeper exploration of the socio-economic and regional disparities affecting access to early childhood education. Policy initiatives should prioritise making preschool education universally accessible and compulsory to reduce readiness gaps. Integrating professional development programs that equip teachers with strategies to address diverse readiness levels could further enhance transition outcomes. Further efforts should also focus on improving parental and teacher psychological readiness for primary school transition and developing mechanisms that facilitate the management of transitions between different educational institutions. By implementing these recommendations, both educational policies and teaching practices can be refined to ensure that every child has a smoother and more equitable transition to primary school.

References

- Akbuğa, S. (2018). *Okul öncesi eğitimin ilkökula hazırlama düzeyinin okul öncesi ve sınıf öğretmenleri tarafından değerlendirilmesi* (Thesis No. 524584) [Master's thesis, Erciyes University]. Council of Higher Education National Thesis Center.
- Akman, B., Kükürtçü, S. K., Tarman, İ., & Şanlı, Z. S. (2017). Examining preschool and first grade teachers' opinions on the effects of school readiness to classroom management. *International Journal of Progressive Education*, 13(1), 22-41.
- Altın, D. (2014). *Annelerin özel gereksinimli çocuklarının okulöncesi dönemden ilkökula geçiş sürecine ilişkin yaşantılarının incelenmesi* (Thesis No. 375300) [Master's thesis, Anadolu University]. Council of Higher Education National Thesis Center.
- Altun, D. (2018). A paradigm shift in school readiness: A comparison of parents', pre-service and inservice preschool teachers' views. *International Journal of Progressive Education*, 14(2), 37-56. <https://doi.org/10.29329/ijpe.2018.139.4>
- Aminova, L. (2022). Competence approaches in preparing children for school education in preschool education. *European Journal of Life Safety and Stability*, 13, 136-139.
- Arı, H. (2015). *Bir okul öncesi özel eğitim kurumunda tersine kaynaştırma uygulamasının ve ilkökula hazırlığa etkilerinin incelenmesi* (Thesis No. 425165) [Master's thesis, Necmettin Erbakan University]. Council of Higher Education National Thesis Center.
- Ari, A. (2014). Teacher views about the starting age of the first grade elementary school. *Educational Sciences: Theory and Practice*, 14(3), 1043-1047.
- Aromataris, E., & Munn, Z. (2020). *Joanna Briggs Institute reviewers' manual*. Joanna Briggs Institute. <https://doi.org/10.46658/JBIRM-20-02>
- Aslan, M., & Çıkar, İ. (2019). The school readiness of 60-65 months old students: A case study. *International Journal of Contemporary Educational Research*, 6(1), 86-99. <https://doi.org/10.33200/ijcer.555465>
- Bay, E., Türkan, A., Tosun, Ş., Deliçay, F., Ateş, G. N., Pamuk, T., Özkan, S., & Demir, S. (2013). 4+4+4 modelinin paydaşlar bağlamında değerlendirilmesi: Aktif katılım mı? Pasif direniş mi?. *Education and Society in The 21st Century*, 3(5), 34-55.
- Bruner, C., Floyd, S., & Copeman, A. (2005). *Seven things policy makers need to know about school readiness*. State Early Childhood Policy Technical Assistance Network. <http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=7A9149019DF9174E956B5FD986CE9D37?doi=10.1.1.529.1934&rep=rep1&type=pdf>
- Buldu, M., & Er, S. (2016). Okula hazırbulunuşluk ve okula başlama yaşı: Türk öğretmen ve ailelerin yeni eğitim politikası üzerine görüş ve deneyimleri. *Education and Science*, 41(187), 97-114.
- Burston, A., Miles, S. J., & Fullbrook, P. (2023). Patient and carer experience of living with a pressure injury: A meta-synthesis of qualitative studies. *Journal of Clinical Nursing*, 32(13-14), 3233-3247. <https://doi.org/10.1111/jocn.16431>
- Campbell, R., Pound, P., Pope, C., Britten, N., Pill, R., Morgan, M., & Donovan, J. (2003). Evaluating meta-ethnography: A synthesis of qualitative research on lay experiences of diabetes and diabetes care. *Social Science & Medicine*, 56(4), 671-684. [https://doi.org/10.1016/S0277-9536\(02\)00064-3](https://doi.org/10.1016/S0277-9536(02)00064-3)
- Celebi Oncu, E., & Unluer, E. (2013). Examination of parent's views about their 60-77 months old children's maturity of primary school. *Procedia-Social and Behavioral Sciences*, 76, 322-326. <https://doi.org/10.1016/j.sbspro.2013.04.121>
- Centre for Community Child Health. (2008). *Rethinking school readiness* (Policy Brief No. 10). https://www.rch.org.au/uploadedFiles/Main/Content/ccch/PB10_SchoolReadiness.pdf

- Chrastina, J. (2018, July). *Meta-synthesis of qualitative studies: Background, methodology and applications*. Paper presented at the NORDSCI International Conference, Helsinki. <https://files.eric.ed.gov/fulltext/ED603222.pdf>
- Crosser, S. L. (1991). Summer birth date children: Kindergarten entrance age and academic achievement. *Journal of Educational Research*, 84(3), 140-145. <https://doi.org/10.1080/00220671.1991.10886007>
- Cunha, F., Heckman, J. J., Lochner, L. J., & Masterov, D. V. (2006). Interpreting the evidence on life cycle skill formation. In E. Hanushek & F. Welch (Eds.), *Handbook of the economics of education* (pp. 697-812). Elsevier. [https://doi.org/10.1016/S1574-0692\(06\)01012-9](https://doi.org/10.1016/S1574-0692(06)01012-9)
- Çalık, M., & Sözbilir, M. (2014). İçerik analizinin parametreleri. *Education and Science*, 39(174), 33-38. <https://doi.org/10.15390/EB.2014.3412>
- Çeliktürk Sezgin, Z. (2020). Being parents of first graders in primary school: Balancing the excitement and anxiety. *Journal of Qualitative Research in Education*, 8(1), 1-17. <https://doi.org/10.14689/issn.2148-2624.1.8c.1s.1m>
- Dee, T., & Sievertsen, H. H. (2015). *The gift of time? School starting age and mental health* (NBER Working Paper No. 21610). National Bureau of Economic Research. <https://doi.org/10.3386/w21610>
- DeMeis, J. L., & Stearns, E. S. (1992). Relationship of school entrance age to academic and social performance. *Journal of Educational Research*, 86(1), 20-27. <https://doi.org/10.1080/00220671.1992.9941823>
- Demir, S., & Üstün, E. (2018). 60-66 aylık çocukların ilkökul 1. sınıfa başlaması uygulamasına ilişkin öğretmen ve veli görüşlerinin incelenmesi. *Elementary Education Online*, 17(3), 1604-1618. <https://doi.org/10.17051/ilkonline.2018.466398>
- Deveci, Ö., & Aykaç, N. (2018). Evaluation of studies examining the problems experienced in basic: A meta-synthesis study. *Journal of Qualitative Research in Education*, 7(1), 277-301. <https://doi.org/10.14689/issn.2148-2624.1.7c1s.13m>
- Dickens, W. T., Sawhill, I., & Tebbs, J. (2006). *The effects of investing in early education on economic growth* (Policy Brief No. 153). The Brookings Institution. <https://www.brookings.edu/wp-content/uploads/2016/07/200604dickenssawhill.pdf>
- Dinçer, S. (2018). Content analysis in scientific research: Meta-analysis, Meta-synthesis, and descriptive content analysis. *Bartın University Journal of Faculty of Education*, 7(1), 176-190. <https://doi.org/10.14686/buefad.363159>
- Dockett, S., & Perry, B. (2002). Who's ready for what? Young children starting school. *Contemporary Issues in Early Childhood*, 3(1), 67-89. <https://doi.org/10.2304/ciec.2002.3.1.9>
- Dockett, S., & Perry, B. (2004). What makes a successful transition to school? Views of Australian parents and teachers. *International Journal of Early Years Education*, 12(3), 217-230. <https://doi.org/10.1080/0966976042000268690>
- Dockett, S., & Perry, B. (2007). The role of schools and communities in children's school transition. In R. E. Tremblay, R. G. Barr, & R. DeV. Peters (Eds.), *Encyclopedia on early childhood development*. Centre of Excellence for Early Childhood Development <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=62bb8dc2c49676d72fd6564cba77daac1819efe0>
- Dockett, S., & Perry, B. (2009). Readiness for school: A relational construct. *Australasian Journal of Early Childhood*, 34(1), 20-26. <https://doi.org/10.1177/183693910903400104>
- Durmaz, G. (2020). *İlkokula başlama yaşına ilişkin yönetici ve öğretmen görüşleri* [Master's project, Pamukkale University]. Pamukkale GCRIS Veritabanı. https://gcris.pau.edu.tr/bitstream/11499/28576/1/G%C3%96KHAN_DURMAZ_PROJE.pdf

- ECDAN. (2020, March). *A joint statement on early childhood development and COVID-19: A call for coordinated action to protect and support all young children and their caregivers*. https://mcusercontent.com/8103bc6125ed66e0964ae244d/files/1919e510-55e7-4500-9473-188278e1a31d/CallToAction_04_10_2020_Noon.pdf
- Ekinci, A., & Bozan, S. (2019). Zorunlu okul öncesi eğitime geçiş ile ilgili anasınıfı ve sınıf öğretmenlerinin görüşlerinin değerlendirilmesi. *Bolu Abant İzzet Baysal University Journal of Faculty of Education*, 19(2), 482-500. <https://doi.org/10.17240/aibuefd.2019.19.46660-409816>
- Erbasan, Ö., & Erbasan, Ü. (2020). Sınıf öğretmenlerinin ilk okuma yazma öğretimi sürecinde karşılaştığı sorunlar. *Journal of Mother Tongue Education*, 8(1), 113-125. <https://doi.org/10.16916/aded.628267>
- Ergün, M., & Arık, B. M. (2020). *Eğitim izleme raporu 2020: Öğrenciler ve eğitime erişim*. Eğitim Reformu Girişimi. <https://egitimreformugirisimi.org/yayinlar/egitim-izleme-raporu-2020-ogrenciler-ve-egitime-erisim/>
- Erkan, N. S., Tarman, I., Şanlı, Z. S., Koşan, Y., & Ömrüuzun, I. (2018). First grade students' perceptions of their preschool and elementary school experience. *International Journal of Progressive Education*, 14(5), 1-13. <https://doi.org/10.29329/ijpe.2018.157.1>
- Erwin, E. J., Brotherson, M. J., & Summers, J. A. (2011). Understanding qualitative metasynthesis: Issues and opportunities in early childhood intervention research. *Journal of Early Intervention*, 33(3), 186-200. <https://doi.org/10.1177/1053815111425493>
- Esen Aygün, H. (2019). Okuma-yazma bilerek ilkokula başlayan öğrencilerin akademik ve sosyal gelişimlerinin öğretmen görüşlerine göre incelenmesi. *Journal of Mother Tongue Education*, 7(3), 663-687. <https://doi.org/10.16916/aded.565222>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (7th ed.). McGraw-Hill.
- Fridani, L., & Agbenyega, J. S. (2013). Rethinking school readiness and transition policy and practice in early childhood education (ECE): A whole schooling framework. In B. Boufoy-Bastick (Ed.), *The international handbook of cultures of education policy* (Vol. I): *Comparative international issues in policy-outcome relationships - achievement with family and community involvement* (pp. 121-153). Analytrics.
- Gredler, G. R. (1980). The birthdate effect: Fact or artifact? *Journal of Learning Disabilities*, 13(5), 349-244. <https://doi.org/10.1177/002221948001300502>
- Gregory, T., Dal Grande, E., Brushe, M., Engelhardt, D., Luddy, S., Guhn, M., Gadermann A., Schonert-Reichl, K. A., & Brinkman, S. (2021). Associations between school readiness and student wellbeing: A six-year follow up study. *Child Indicators Research*, 14(1), 369-390. <https://doi.org/10.1007/s12187-020-09760-6>
- Gullo, D. F., & Burton, C. B. (1992). Age of entry, preschool experience, and sex as antecedents of academic readiness in kindergarten. *Early Childhood Research Quarterly*, 7(2), 175-186. [https://doi.org/10.1016/0885-2006\(92\)90003-H](https://doi.org/10.1016/0885-2006(92)90003-H)
- Güner, F., & Kartal, H. (2019). Okulun hazır oluşu üzerine nitel bir inceleme (öğretmen görüşlerine göre durum tespiti). *Trakya Journal of Education*, 9(2), 244-259. <https://doi.org/10.24315/tred.474315>
- Gürbüz, E. (2019). *İlkokula beş yaşında başlamanın öğrencilerin gelişimlerine etkileri konusunda öğretmen görüşleri: Nitel bir çalışma* (Thesis No. 545159) [Master's thesis, Ankara University]. Council of Higher Education National Thesis Center.
- Güzelyurt, T., Erol, S., Kahraman, A., Temel, L., & Şavluk, B. (2019). Okul öncesi öğretmenlerinin ilkokula hazırbulunuşluğa ilişkin görüşleri. *International Primary Educational Research Journal*, 3(1), 23-30. <https://doi.org/10.33400/kuje.538425>
- Hains, A. H., Fowler, S. A., Schwartz, I. S., Kottwitz, E., & Rosenkoetter, S. (1989). A comparison of preschool and kindergarten teacher expectations for school readiness. *Early Childhood Research Quarterly*, 4(1), 75-88. [https://doi.org/10.1016/S0885-2006\(89\)90090-2](https://doi.org/10.1016/S0885-2006(89)90090-2)

- Işıkoğlu Erdoğan, N., & Şimşek, Z. C. (2014). Birinci sınıfa başlayan çocukların, velilerin ve öğretmenlerin okula uyumlarının incelenmesi. *International Journal of New Trends in Arts, Sports & Science Education*, 3(2), 62-70.
- İbileme, S. (2019). *Yetersizliği olan öğrencilerin ilkokula başlama sürecinde okula uyumuna yönelik ailelerinin ve öğretmenlerinin görüşleri* (Thesis No. 592225) [Master's thesis, Anadolu University]. Council of Higher Education National Thesis Center.
- Janus, M., & Offord, D. (2000). Readiness to learn at school. *Canadian Journal of Policy Research*, 1(2), 71-75.
- Jose, K., Banks, S., Hansen, E., Jones, R., Zubrick, S. R., Stafford, J., & Taylor, C. L. (2022). Parental perspectives on children's school readiness: An ethnographic study. *Early Childhood Education Journal*, 50, 21-31. <https://doi.org/10.1007/s10643-020-01130-9>
- Kahramanoğlu, R., Tiryaki, E. N., & Canpolat, M. (2015). İlkokula yeni başlayan 60-66 ay grubu öğrencilerin okula hazır oluşları üzerine inceleme. *Kastamonu Education Journal*, 23(3), 1065-1080.
- Karoly, L., Kilburn, M., & Cannon, J. (2005). *Early childhood interventions: Proven results, future promises*. The RAND Corporation. <https://doi.org/10.1007/s10643-020-01130-9>
- Kartal, H., & Güner, F. (2022). Okulun hazır olması yaklaşımı bağlamında ilkokul öğretmenlerinin deneyimlerinin incelenmesi: Fransa ve Türkiye. *Hacettepe University Journal of Education*, 37(1), 239-253. <https://doi.org/10.16986/HUJE.2020060262>
- Koçak, D., & İncekara, S. (2020). Determination of classroom teachers' and preschool education teachers' views on school maturity. *Journal of Theoretical Educational Science*, 13(1), 170-190. <https://doi.org/10.30831/akukeg.557152>
- Koçyiğit, S. (2009). *İlköğretim birinci sınıf öğretmenlerinin ve ebeveynlerin görüşleri ışığında okula hazır bulunuşluk olgusu ve okul öncesi eğitime ilişkin sonuçları* (Thesis No. 234780) [Doctoral dissertation, Selçuk University]. Council of Higher Education National Thesis Center.
- Koçyiğit, S. (2014). Okul öncesi dönem çocuklarının ilkokul hakkındaki görüşleri. *Educational Sciences: Theory & Practice*, 14(5), 1891-1874.
- Kotaman, H. (2014) Turkish classroom teachers' views on school readiness: A phenomenological study. *Education 3-13*, 42(5), 542-553, <https://doi.org/10.1080/03004279.2012.736401>
- Kök, M., Fırat, Z., & Balcı, A. (2019). Okuma yazma bilerek ilkokula başlayan çocuklar hakkında ilkokul öğretmenlerinin görüşleri. *Atatürk University Journal of Kazım Karabekir Education Faculty*, (39), 48-63. <https://doi.org/10.33418/ataunikkefd.569763>
- Kumru, M. (2014). Teachers' views on the qualifications that students should possess in the transition to primary education (Case study: Sakarya). *Procedia-Social and Behavioral Sciences*, 116, 4333-4337. <https://doi.org/10.1016/j.sbspro.2014.01.942>
- Kutluca Canbulat, A. N., & Yıldızbaş, F. (2014). Okul öncesi ve sınıf öğretmenlerinin 60-72 aylık çocukların okula hazır bulunuşluklarına ilişkin görüşleri. *Bolu Abant İzzet Baysal University Journal of Faculty of Education*, 14(1), 33-50.
- Lewit, E. M., & Baker, L. S. (1995). School readiness. *The Future of Children: Critical Issues for Children and Youth*, 5(2), 1-12. <https://doi.org/10.2307/1602361>
- Lockwood, V., & Fleet, A. (1999). Attitudes towards the notion of preparing children for school. *Australian Journal of Early Childhood*, 24(3), 18-24. <https://doi.org/10.1177/183693919902400305>
- McTaggart, J., & Astbury, R. (2005). Transition to school. In P. Burrows & J. Cowie (Eds.), *Health visiting: Specialist community public health nursing* (pp. 343-354). Elsevier Health Sciences.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: A source book*. Sage Publications.
- Ministry of National Education. (2018). *Güçlü yarınlar için 2023 eğitim vizyonu*. https://www.gmka.gov.tr/dokumanlar/yayinlar/2023_Eğitim%20Vizyonu.pdf

- Ministry of National Education. (2020). *Millî eğitim istatistikleri: Örgün eğitim: 2019-2020*. https://sgb.meb.gov.tr/meb_iys_dosyalar/2020_09/04144812_meb_istatistikleri_orgun_egitim_2019_2020.pdf
- Moore, T. G. (2006). *Early childhood and long term development: The importance of the early years*. Australian Research Alliance for Children and Youth.
- Noah Jr, P. D. (2017). A systematic approach to the qualitative meta-synthesis. *Issues in Information Systems*, 18(2), 196-205.
- Özdemir, A., & Battal, Ş. (2019). İlkokula erken yaşta başlayan öğrencilerin okula uyum süreci ve akademik başarı bağlamında yaşadıkları sorunlar. *OPUS International Journal of Society Researches*, 11(18), 1633-1683. <https://doi.org/10.26466/opus.529169>
- Öztürk, E., & Bektaş, M. (2018). Examination of teachers' opinions about the acquisition of the life skills of the students transitioning from preschool to primary school. *Journal of Human Sciences*, 15(2), 1097-1115. <https://doi.org/10.14687/jhs.v15i2.5365>
- Page, J., Nienhuys, T., Kapsalakis, A., & Morda, R. (2001). Parents' perceptions of kindergarten programmes in Victoria. *Australian Journal of Early Childhood*, 26(3), 43-50. <https://doi.org/10.1177/183693910102600309>
- Parlak, C. (2019). *Otizimli kaynaştırma öğrencilerinin okulöncesi dönemden ilkokula geçişte yaşadıkları sosyal uyum problemlerinin aile ve öğretmen görüşleri açısından incelenmesi* (Thesis No. 501365) [Master's thesis, Trakya University]. Council of Higher Education National Thesis Center.
- Parr, J., McNaughton, S., Timperley, H., & Robinson, V. (1993). Bridging the gap - practices of collaboration between home and the junior school. *Australian Journal of Early Childhood*, 18(3), 35-42.
- Pekdoğan, S. (2018). Sınıf öğretmenlerinin ilkokula hazırlık sürecinde okul öncesi eğitimden beklentileri. *Journal of Education for Life*, 31(2), 11-22.
- Pişirir, N., & Ayar, M. C. (2020). Okul öncesi dönemden ilkokula geçişte öğretmenlerin karşılaştığı sorunların incelenmesi. *Istanbul Aydın University Journal of Education*, 6(2), 307-324.
- Polat, S., & Ay, O. (2016). Meta-synthesis: A conceptual analysis. *Journal of Qualitative Research in Education*, 4(1), 52-64. <https://doi.org/10.14689/issn.2148-2624.1.4c2s3m>
- Rouse, E., Nicholas, M., & Garner, R. (2020). School readiness-what does this mean? Educators' perceptions using a cross sector comparison. *International Journal of Early Years Education*, 31(1), 185-199. <https://doi.org/10.1080/09669760.2020.1733938>
- Sağlam, H. İ., & Besen, T. (2015). Investigating classroom teachers' views on age of starting primary school for 60-66 months old children. *International Online Journal of Educational Sciences*, 7(2), 167-179. <https://doi.org/10.15345/iojes.2015.02.019>
- Sak, R., Şahin Sak, İ. T., & Tuncer, N. (2016) Turkish preschool children's perceptions and expectations related to 1st-grade education, childhood education. *Childhood Education*, 92(2), 149-154. <https://doi.org/10.1080/00094056.2016.1150754>
- Sandelowski, M., Docherty, S., & Emden, C. (1997). Qualitative metasynthesis: Issues and techniques. *Research in Nursing & Health*, 20(4), 365-371. [https://doi.org/10.1002/\(SICI\)1098-240X\(199708\)20:4<365::AID-NUR9>3.0.CO;2-E](https://doi.org/10.1002/(SICI)1098-240X(199708)20:4<365::AID-NUR9>3.0.CO;2-E)
- Sezginsoy-Şeker, B. (2015). The evaluation of 1st-grade school teachers' views about orientation and preparation programs. *Journal of Educational Sciences Research*, 5(2), 19-37. <https://doi.org/10.12973/jesr.2015.52.2>
- Shepard, L. A. (1997). Children not ready to learn? The invalidity of school readiness testing. *Psychology in the Schools*, 34(2), 85-97. [https://doi.org/10.1002/\(SICI\)1520-6807\(199704\)34:2<85::AID-PITS2>3.0.CO;2-R](https://doi.org/10.1002/(SICI)1520-6807(199704)34:2<85::AID-PITS2>3.0.CO;2-R)
- Snow, K. L. (2006). Measuring school readiness: Conceptual and practical considerations. *Early Education and Development*, 17(1), 7-41. https://doi.org/10.1207/s15566935eed1701_2

- Stipek, D. (2002). At what age should children enter kindergarten? A question for policy makers and parents. *Social Policy Report*, 16(2), 1-20. <https://doi.org/10.1002/j.2379-3988.2002.tb00018.x>
- Strategy and Budget Department. (2019). *On birinci kalkınma planı (2019-2023)*. https://www.sbb.gov.tr/wp-content/uploads/2022/07/On_Birinci_Kalkinma_Plani-2019-2023.pdf
- Susar Kırmızı, F. (2015). Elementary 1st grade teachers' views on the practices in the 12-week adaptation and preparation process. *Education and Science*, 40(179), 147-162. <https://doi.org/10.15390/EB.2015.3011>
- Şahin, I. T., Sak, R., & Tuncer, N. (2013). A comparison of preschool and first grade teachers' views about school readiness. *Educational Sciences: Theory and Practice*, 13(3), 1708-1713.
- Taşçı, N., & Dikici Sığırtmaç, A. (2014). Okula uyum haftasının okul öncesi öğretmenleri ve sınıf öğretmenleri açısından incelenmesi. *Journal of National Education*, 44(202), 101-116.
- Teke, H. (2010). *Ana sınıfı öğretim programının ilköğretim 1. kademe 1. sınıf öğrencilerinin hazırbulunuşluk düzeylerine etkisinin öğretmen görüşlerine göre incelenmesi* (Thesis No. 264390) [Doctoral dissertation, Selçuk University]. Council of Higher Education National Thesis Center.
- Tekindal, M., & Tonbalak, K. (2021). Nitel araştırmalarda meta-sentezin kapsamı ve yaşlılık alanında meta-sentez örnekleri. *Beyond the Horizon of Scientific Journal*, 21(2), 235-268. <https://doi.org/10.54961/uobild.1036670>
- Toprakçı, E., & Gülmez, D. (2018). Education life of students from parents' perspective (A qualitative analysis in the context of memories). *Journal of Qualitative Research in Education*, 6(1), 253-275. <https://doi.org/10.14689/issn.2148-2624.1.6c1s11m>
- Tunca, E., Kesbiç, K., & Gencer, E., G. (2021). *Eğitim izleme raporu 2021: Öğrenciler ve eğitime erişim*. Education Reform Initiative. <https://www.egitimreformugirisimi.org/egitim-izleme-raporu-2021-ogrenciler-ve-egitime-erisim/>
- UNESCO. (2020). *UNESCO COVID-19 education response: How many students are at risk of not returning to school?*. <https://unesdoc.unesco.org/ark:/48223/pf0000373992>
- Uzun, E. M., & Alat, K. (2014). İlkokul birinci sınıf öğretmenlerinin 4+4+4 eğitim sistemi ve bu sistem sonrasında ilkokula başlayan öğrencilerin hazırbulunuşlıkları hakkındaki görüşleri. *Bolu Abant İzzet Baysal University Journal of Faculty of Education*, 14(2), 15-44. <https://doi.org/10.17240/aibuefd.2014.14.2-5000091526>
- Yapıcı, M., & Ulu, F. B. (2010). İlköğretim 1. sınıf öğretmenlerinin okul öncesi öğretmenlerinden beklentileri. *Journal of Theoretical Educational Science*, 3(1), 43-55.
- Yazıcı, D. N., Nazik Kumbasar, A., & Akman, B. (2016). Ailelerin gözünden okul öncesinden ilkokula geçişte yaşanan güçlükler ve çözüm önerileri. In Ö. Demirel & S. Dinçer (Eds.), *Eğitim bilimlerinde yenilikler ve nitelik arayışı* (pp. 447-458). Pegem.
- Yüksel, M. Y., Kurt, B., Gülsu, N., Akdağ, C., Aydın, F., & Erdoğan, F. (2016). Okula uyum sağlamakta güçlük çeken çocukların çizdikleri okul resimleri üzerine nitel bir araştırma. *Mersin University Journal of the Faculty of Education*, 12(2), 642-658.
- Zimmer, L. (2006). Qualitative meta-synthesis: A question of dialoguing with texts. *Journal of Advanced Nursing*, 53(3), 311-318. <https://doi.org/10.1111/j.1365-2648.2006.03721.x>



How middle school students learn new words in their native language: an empirical study of vocabulary learning strategies

Muhammet Memiş¹

Abstract

This study aimed to identify the strategies middle school students employ to learn vocabulary in their native language and to assess the extent of their strategy use. It also sought to explore whether variables such as gender, age, access to technology, number of books read, the presence of an older sibling, parents' educational background, and school location influence the frequency with which children aged 11-14 apply vocabulary learning strategies. To accomplish these objectives, the descriptive survey model, a quantitative research method, was utilized. Data were collected from a sample of 1620 middle school students during the 2022-2023 and 2023-2024 academic years through the administration of the *Native Language Vocabulary Learning Strategies Scale (NLVLSS)* and a personal information form. The analysis of the data revealed that middle school students use vocabulary learning strategies in their native language at a *moderate* level. It was observed that gender and the presence of an older sibling did not significantly affect the use of these strategies, whereas age, access to technology, number of books read, parental education level, and school location were found to influence the extent to which students employed vocabulary learning strategies. Moreover, the findings indicated that middle school students most frequently utilized confirmation-oriented strategies, followed by *reinforcement-oriented strategies*, with *learning-oriented strategies* being used least frequently. The overall ranking of strategy use was determined as follows: *confirmation* > *reinforcement* > *learning-oriented strategies*. Based on these findings and in light of the relevant literature, several recommendations were proposed: providing awareness training to promote the use of vocabulary learning strategies; offering guidance specifically focused on learning-oriented strategies; revising curricula and textbooks to better support the application of such strategies; and developing and implementing educational policies aimed at fostering students' reading habits.

Keywords

Native language
L1
Vocabulary knowledge
Vocabulary learning
Vocabulary learning strategies
Middle school students

Article Info

Received: 01.24.2024
Accepted: 04.21.2025
Published Online: 08.18.2025

DOI: 10.15390/ES.2025.2573

¹ Ondokuz Mayıs University, Faculty of Education, Department of Turkish and Social Sciences Education, Samsun, Türkiye, muhammet.memis@omu.edu.tr

Introduction

The concept of language education comprises two subdimensions: instruction and learning. These two aspects necessitate approaching the issue of language education from two distinct perspectives—one from the standpoint of the instructor and the other from that of the learner. In terms of activities and responsibilities, the instructional dimension is associated with teachers, while the learning dimension pertains to students. Both dimensions are present in native language as well as second/foreign language education. In each of these processes, instructors take on the role of transmitting knowledge and providing guidance, while learners engage individually in the processes of acquiring, developing, and applying the language. Although instruction and learning are in constant interaction, they differ in terms of the tasks performed, the roles assumed, the responsibilities undertaken, and the mental processes involved. Members of both groups have specific responsibilities and tasks throughout the language education process. For instance, when the target outcome is a grammar topic, the instructor is expected to determine the appropriate teaching method, prepare a lesson plan and instructional materials, plan the strategies to be used, and implement them in class. Meanwhile, students are responsible for bringing necessary materials to class, following the lesson, taking notes, asking questions about unclear points, completing exercises and assignments, knowing and applying appropriate learning strategies during and after the lesson, reviewing what they have learned, and taking measures to retain this knowledge. This distinction also applies to vocabulary development. In this context, vocabulary enrichment activities involve both teachers and students carrying out instructional and learning tasks and responsibilities, respectively. All efforts related to vocabulary development that can be undertaken by teachers fall within the scope of instruction, while those carried out by students fall under the scope of learning. In relation to vocabulary development, this distinction is addressed in the literature (Krashen, 1981; Nation, 2001; Schmitt, 2008) through the concepts of incidental and intentional vocabulary instruction. Incidental vocabulary instruction refers to teaching activities in which learners encounter new words within natural language contexts, such as reading and listening/viewing materials used in the educational process, without a direct focus on vocabulary teaching. Intentional vocabulary instruction, on the other hand, involves the planned and deliberate teaching of target words through various methods (Ellis, 1994; Hulstijn, 2003). Learning-oriented processes refer to the individual, conscious or unconscious, efforts and strategies used by students to enhance their personal vocabulary repertoire (Graves, 2006; Kaya, 2023; NICHD, 2000). However, the literature also acknowledges (Eckerth & Tavakoli, 2012; Van Den Broek et al., 2022) that classroom time is often too limited to provide sufficient opportunities for intentional and direct vocabulary learning.

When children reach an age and level of maturity that enable them to consciously direct their own vocabulary learning, understanding how they develop their personal vocabulary repertoire in their native language becomes a research area that has so far been largely overlooked in the literature. Vocabulary development activities in the native language are often limited to reading and listening to texts presented in formal language education courses and the related exercises aimed at improving basic language skills. As a result of this practice, most studies on vocabulary acquisition tend to focus on instruction-oriented factors within a narrow framework directed and managed by teachers. However, before reaching school age, children acquire a significant portion of their personal vocabulary in their native language not through formal instruction, but through acquisition - via social interaction, everyday experiences, exposure to various media content, and intra-family communication, all of which are unconscious or unstructured processes. Children also expand their vocabulary through their own learning initiatives, such as inferring meaning from conversational contexts, asking peers or parents, and guessing word meanings. Therefore, vocabulary acquisition research should increasingly focus on children's own efforts and strategies for vocabulary learning and explore the related factors within this broader and more learner-centered framework.

When the international literature is examined in this context, it becomes evident that vocabulary teaching activities are generally addressed within teacher-centered approaches, with vocabulary instruction largely limited to in-class practices (Boers & Lindstromberg, 2008; Graves, 2006; Marzano, 2004). Existing practices tend to emphasize textbook-based instructional methods, direct teaching techniques, and vocabulary activities guided by the instructor (Beck et al., 2013; Biemiller, 2010). This focus has led research on vocabulary instruction to concentrate predominantly on the controlled aspects of the teaching process, leaving insufficient attention to how students manage their own learning and which strategies they employ in doing so. Studies conducted within the context of native language education reveal that vocabulary teaching is largely carried out through textbooks and under the guidance of teachers (Graves, 2006; Kamil & Hiebert, 2005; Stahl & Nagy, 2006). This perspective significantly limits students' active involvement in the learning process and their ability to manage the development of their personal vocabulary repertoire independently (Snow et al., 2005). However, restricting vocabulary instruction solely to in-class activities may hinder students from acting autonomously in their learning processes and from employing strategies to expand their own vocabulary (Blachowicz & Fisher, 2014; Nagy & Scott, 2000; Perfetti & Stafura, 2014). In this regard, the international literature emphasizes the need to make vocabulary teaching practices more flexible and to adopt methods that support students' involvement in independent vocabulary learning processes (Kamil & Hiebert, 2005; Perfetti & Stafura, 2014). Along the same lines, the National Reading Panel Report (NICHD, 2000) highlights the necessity for students to play an active role in vocabulary development. The report advocates for a shift away from purely teacher-centered vocabulary learning, encouraging a focus on strategies that students can use to direct their own learning. It also points out that traditional textbook-based approaches to vocabulary instruction constrain the learning process and do not sufficiently support students in developing their vocabulary (Dickinson & Smith, 1994; Drevno et al., 1994; Sénéchal, 1997).

In the national literature as well, vocabulary development activities carried out in Turkish language classes within the framework of native language education have thus far been designed around a teacher-led and instruction-focused model. Studies on vocabulary development and vocabulary acquisition have similarly adopted a perspective that emphasizes the various methods, techniques, and strategies that can be utilized by teachers, without sufficiently considering the possibility that students can assume responsibility for their own learning and expand their vocabulary using a range of strategies. In this sense, the instructional dimension has been prioritized in the development of students' vocabulary in native language education, while the learning dimension has been largely overlooked. As in previous curricula, the current Turkish language curriculum (Ministry of National Education [MoNE], 2019, 2024) also adopts an instruction-oriented approach, relying on textbook-based teaching activities and teacher guidance for vocabulary development. Publications in the literature (Arı, 2006; Göçer, 2009; Karatay, 2007; Türkben, 2018) have placed significant emphasis on Turkish textbooks in enhancing students' vocabulary and have focused on the transmission—or rather, the teaching—of words presented in these books using various methods, techniques, and activities. This emphasis is also reflected in research conducted on vocabulary within native language education. Existing studies in the literature concentrate on topics such as identifying the vocabulary contained in textbooks (Baysal, 2007; Büyükhellaç, 2014; Doğan, 2016; Uluçay, 2011), determining students' active vocabulary based on their written productions (Cesur, 2005; Çiftçi, 1991; Eğilmez, 2010; Türkyılmaz, 2013), comparing textbook vocabulary with students' measurable active personal vocabulary (Aslan, 2013; Karadağ, 2005; Kurudayıoğlu, 2005), evaluating textbooks from the perspective of vocabulary instruction (Aru, 2013; Başdamar, 2010; Güzel, 2015), and enhancing students' vocabulary through various methods, techniques, and strategies (Bulut, 2013; Gülsoy, 2013; Koçkaya, 2014; Okur, 2007; Uluçay, 2016).

As a result, within the scope of vocabulary development activities in the native language, target words have generally been treated as items that must be taught to students, and both educational practices and academic research have been conducted within this framework. This approach has largely overlooked the fact that students may also acquire vocabulary in their native language independently—

either consciously or unconsciously – and that they may employ various strategies in doing so. A review of the literature on vocabulary learning reveals that studies focusing on learner-applied strategies are predominantly oriented toward foreign or second language acquisition; vocabulary learning strategies are commonly perceived as tools primarily applicable to the learning of words in a language other than one's native tongue. Both national (Baskın et al., 2017; Biçer & Polatcan, 2015; Kocaman et al., 2018; Memiş, 2018b; Şener, 2015; Tanyer & Öztürk, 2014; Tok & Yığın, 2014) and international (Barcroft, 2009; Cook, 2001; Gu & Johnson, 1996; Lawson & Hogben, 1996; Lee, 2007; Oxford, 1990; Schmitt, 1997; Waldvogel, 2013) studies reflect this trend. The literature review conducted for this study revealed no empirical research examining the practices employed by school-aged children to develop their personal vocabulary in their native language.

When the process of teaching Turkish as a native language is considered in terms of vocabulary development, it becomes clear that, due to factors such as curriculum adherence, limited class time, and the quality of textbooks used, an indirect vocabulary instruction approach has been predominantly adopted (Genç, 2021; Kaya, 2021). Vocabulary instruction has been largely dependent on reading texts and related activities, and this approach was sustained in Turkish language curricula prior to 2019 (Mert, 2015; Taga, 2018), with vocabulary development efforts carried out in a textbook-dependent and textbook-bound manner (Memiş, 2023). However, reviews of vocabulary instruction practices and the textbooks employed in native language education have identified a number of persistent issues (Aydın & Aydın, 2020; Kaya, 2021; Numanoglu, 2021; Ömeroğlu & Hakkoymaz, 2022; Sarı, 2020; Şimşek & Demirel, 2020) that hinder students from attaining a sufficient and desirable level of personal vocabulary development. Indeed, studies conducted to determine the personal vocabulary of middle school students (Aydın, 2014; Göçen & Okur, 2015; Taga, 2018; Tok & Ünlü, 2014) have demonstrated that students possess a considerably limited vocabulary and, as a result, experience difficulties in comprehension and expression. These students are generally able to use only the words they encounter in daily life in their written and oral expressions. Based on this, it can be asserted that the instruction-centered practices and approaches adopted in Turkish language curricula prior to 2024 have failed to achieve the intended learning outcomes related to vocabulary development. To ensure the effective development of students' personal vocabulary and to improve the process of vocabulary enrichment, it is necessary to bring the currently neglected learning dimension into focus.

Factors such as the limited amount of time allocated to native language education courses, the portion of that time that can be dedicated to vocabulary development, and the number of words that can realistically be taught or learned within such a restricted period (Reilly, 2019; Stoewer & Musk, 2019) necessitate that students take personal responsibility for their learning by developing and employing various vocabulary learning strategies in order to build a rich personal lexicon. The literature emphasizes that vocabulary development is not solely the result of textbook-based instruction or teacher-led classroom activities and that students' personal vocabulary may remain limited if they do not adopt independent learning strategies. It has been widely acknowledged that restricting vocabulary development to in-class activities is insufficient (Beck et al., 2013; Nagy & Scott, 2000; NICHD, 2000). Therefore, for students to develop their vocabulary effectively and sustainably, they must take initiative and adopt independent vocabulary learning strategies (Biemiller, 2010). Vocabulary development is largely influenced by the learner's personal efforts and engagement in out-of-class learning processes. It is well-established that academic success is heavily dependent on independent learning skills, and that relying solely on classroom instruction is insufficient for achieving the desired levels of knowledge, skill, and academic performance. Moreover, the employment of learning strategies that enhance independent learning processes significantly contributes to the internalization and retention of acquired knowledge (Brahma & Saikia, 2023; Chickering & Gamson, 1987; Credé & Kuncel, 2008; Dunlosky et al., 2013; Karpicke & Blunt, 2011). Utilizing such strategies is also regarded as critical for fostering a sustainable understanding of learning over the long term. This necessity applies equally to the use of independent vocabulary learning strategies, just as it does to general learning strategies. In this framework, it is clear that students' use of vocabulary learning strategies outside the classroom is crucial for the sustainability of the vocabulary learning process, as well as for language development and

academic success. The independent use of vocabulary learning strategies by students plays a key role in making newly learned words permanent and in supporting the long-term development of language skills (NICHD, 2000). To acquire the rich vocabulary necessary for effective use of language skills—especially reading, writing, listening, and speaking—the conscious use of vocabulary learning strategies is critically important (Snow et al., 2005; Stahl & Nagy, 2006). However, since vocabulary instruction in classrooms is often decontextualized, teacher-centered, and based on rote learning, students must actively use strategies to learn words (Diamond & Gutlohn, 2006; Kamil & Hiebert, 2005). Students who do not engage in independent vocabulary learning processes tend to struggle with long-term retention and practical application of newly learned words in varied contexts (Blachowicz & Fisher, 2014; Graves, 2006). In particular, the conscious use of strategies such as using contextual clues, performing morphological analysis, and examining word structure to infer meaning helps to consolidate vocabulary in long-term memory (Perfetti & Stafura, 2014). The view that students should expand their vocabulary not only through teacher guidance but also by employing personal learning strategies is considered a fundamental component of contemporary educational philosophy. Based on this understanding—that independent vocabulary learning strategies must be developed for effective lexical competence—various vocabulary learning strategies that encompass the methods, techniques, tactics, and practices students may use when learning words in their native language have been identified in the literature (Graves et al., 2017; Karadağ, 2022; Kaya, 2023; Memiş, 2023; NICHD, 2000; Ülper, 2023).

In the literature, research on the strategies students employ during vocabulary learning processes demonstrates that vocabulary acquisition occurs not only through teacher guidance but also through individual learning efforts. The National Reading Panel Report (NICHD, 2000), which comprehensively addresses the strategies used by students in their vocabulary learning processes, emphasizes that these strategies play a critical role in vocabulary development. The report identifies several effective strategies in learning new words in one's native language, including *"using contextual clues, analyzing word structure, using dictionaries, learning through multiple exposures and repetition, semantic mapping, and independent reading"*. In their vocabulary learning strategy instruction program, Graves et al. (2017) classified the strategies students use to infer the meanings of unknown words into four main categories: *"word parts strategy, context strategy, dictionary strategy, and combined strategy"*. Kaya (2023) categorized native language vocabulary learning strategies under five headings: *"contextual clues strategy, word parts analysis strategy, memorization strategy, word associations strategy, and deliberate practice strategy"*. Karadağ (2022) grouped strategies for learning vocabulary in one's native language into three subcategories: *"strategies used to infer the meaning of unfamiliar words, strategies used to clarify meanings and deepen vocabulary knowledge, and strategies used to learn or teach new words and concepts"*. Ülper (2023), without making a distinction between instruction and learning, classified relevant strategies into ten categories as follows: *"strategies for internalizing words through listening, reading, writing, speaking, using word lists, focusing on morphological analysis, inference, keeping a word notebook, creating semantic networks, and using definitions"*. Memiş (2023), on the other hand, addressed strategies as a whole set of practices that children in the process of native language education can use during and outside of lessons to learn new words, reinforce learned vocabulary, and verify the accuracy of what they have learned. He grouped these strategies into three categories: *"learning-oriented, reinforcement-oriented, and confirmation-oriented strategies"*. Among all these taxonomies of vocabulary learning strategies mentioned in the literature, only the classification developed by Memiş (2023) is accompanied by an available scale. Since this scale was used as a data collection instrument in the present study, details of Memiş's (2023) classification of native language vocabulary learning strategies are provided below.

Vocabulary Learning Strategies in the Native Language Learning-Oriented Strategies

Learning-oriented strategies refer to a set of 19 techniques that children in the process of native language education can use both during and outside of class to expand their vocabulary. These strategies include: marking and noting unknown words encountered while reading, listening, or watching and then researching their meanings; using print and/or online dictionaries to learn the meanings of unfamiliar words; searching for unknown words on the internet and trying to learn them by viewing related images on Google; keeping a vocabulary notebook; recording newly learned words in this notebook by either copying their dictionary definitions or rewriting them in their own words; writing example sentences alongside new words in the vocabulary notebook; reading dictionaries to discover new words; reading idiom and proverb dictionaries as well as the origin stories of idioms to learn new expressions; learning the secondary, tertiary, and figurative meanings of newly acquired words along with the words they are frequently used with; learning the grammatical categories of new words; associating word meanings with mental imagery; making an effort to learn the Turkish equivalents of commonly used foreign words; and following social media accounts that share content related to word meanings to learn new vocabulary.

Reinforcement-Oriented Strategies

Reinforcement-oriented strategies consist of 10 techniques that children in the process of native language education can employ following classroom-based skill and vocabulary development activities or independent vocabulary learning efforts outside of class, with the aim of making the words they are trying to learn or have already learned more permanent. These strategies include: intentionally using newly learned words in speech or writing; pronouncing them aloud several times; recording new words in a vocabulary notebook and mentally associating them with their synonyms and/or antonyms; attempting to derive new words by adding derivational affixes to the newly learned ones; regularly reviewing the vocabulary notebook to aid in recall; solving vocabulary meaning questions in test books; practicing the correct usage of foreign-origin words adopted into Turkish; solving word puzzles; and playing word-based games such as Taboo.

Confirmation-Oriented Strategies

Confirmation-oriented strategies include 7 techniques that help children in native language education confirm and clarify the meanings of words they have learned during and after both in-class and out-of-class vocabulary learning activities. These strategies include: asking the teacher or classmates about the meaning of an unfamiliar word encountered during a lesson; asking a family member or friend about the meaning of an unfamiliar word encountered outside of class; confirming with the teacher or another adult whether the meaning of a word looked up in a dictionary has been correctly understood; asking the teacher or an adult whether a newly learned word has been used correctly when first applied in a sentence; checking whether a guessed meaning of an unknown word is accurate by asking someone or doing further research; consulting the vocabulary notebook when uncertain about the meaning of a newly learned word; and regularly checking mentally to recall whether newly learned words have been remembered.

Research Rationale and Significance

A review of the existing literature within the scope of native language education (Beck et al., 2013; Biemiller, 2010; Boers & Lindstromberg, 2008; Graves, 2006; Kamil & Hiebert, 2005; Marzano, 2004; Nagy & Scott, 2000; Stahl & Nagy, 2006) reveals that vocabulary instruction is generally approached through teacher-centered processes, while vocabulary learning is largely discussed in the context of second or foreign language acquisition. It is particularly noteworthy that empirical studies focusing on how individuals consciously manage their vocabulary learning in their native language and what strategies they adopt in this process are extremely limited. Existing studies (Gu & Johnson, 1996; Hedge, 2000; Nation, 1990, 2008; Oxford, 1990; Schmitt, 1997) predominantly focus on vocabulary learning

strategies in foreign language contexts and do not provide a comprehensive analysis of how such strategies are used in native language contexts. This gap in the literature hinders a clear understanding of how students regulate their vocabulary learning in their native language and how awareness of strategies relates to the development of their personal vocabulary. As previously stated, factors such as the limited time allocated to native language education courses (Arslan, 2013; Eğılmez, 2024; Mutlu et al., 2019; Reilly, 2019; Stoewer & Musk, 2019), the amount of time that can be dedicated solely to vocabulary development within this timeframe, the limited number of words that can be taught or learned during this restricted period, and the quality of available instructional materials and activities all create a necessity for students to benefit from the vocabulary learning strategies mentioned above in the process of learning words in their native language. Determining the extent to which this necessity is being met, and identifying potential shortcomings or gaps in this area in order to develop appropriate interventions, is of critical importance.

To date, there appears to be no data-driven research within the scope of native language education aimed at identifying the actual vocabulary learning strategies that children employ while learning words in their native language. Existing studies that have attempted to identify strategies directly used by individuals during vocabulary learning or that highlight the learning dimension in the context of vocabulary development (Al Zahrani & Chaudhary, 2022; Gu, 2018; Kocaman & Kızılkaya, Cumaoğlu, 2014; Labontee, 2019; Linda & Shah, 2020; Memiş, 2018b) have been conducted predominantly in second or foreign language learning contexts. Therefore, it can be said that there is a significant research gap in the literature regarding the identification of vocabulary learning strategies used in native language learning. Just as learners are expected to assume personal responsibility for vocabulary development in second/foreign language learning processes, children in native language education are also responsible for fulfilling similar obligations through the use of various strategies. This situation clearly demonstrates the need for research that emphasizes the learning dimension in native language education, just as in second/foreign language instruction. Given that the failure to support personal vocabulary development within native language education through learning-centered approaches may result in students with limited vocabulary growth and without the ability to independently manage their own vocabulary learning processes, it is essential to determine whether students possess adequate awareness of vocabulary learning strategies. Doing so represents a critical step toward addressing deficiencies encountered in this area. In this context, the present study is the first to examine vocabulary learning strategies in native language education within a holistic framework by categorizing these strategies and investigating their levels of use across a large sample group. At the same time, the study aims to reveal not only the levels at which these strategies are employed but also the key individual and environmental factors that shape these processes. Accordingly, the findings are expected to contribute to the development of learning-centered vocabulary teaching policies in native language education and to provide a methodological framework for future research. In addition, the study is anticipated to offer insights into practices that support the development of students' independent vocabulary learning skills within the native language education process.

Research Aim

This study aims to identify the vocabulary learning strategies used by children aged 11-14 who are enrolled in middle school and to determine the extent to which they use these strategies when learning new words in their native language. The study further aims to examine whether variables such as gender, age, access to technology, number of books read, the presence of an older sibling, parents' educational background, and the location of the school have any impact on the level of strategy use. These variables were selected based on factors identified in the relevant literature as having the potential to influence children's vocabulary learning processes. Specifically, prior studies have highlighted the effects of gender (Bölükbaş, 2010; McKean et al., 2015), age (Cain & Oakhill, 2011), access to technology (Korat, 2010), number of books read (Sullivan & Brown, 2015; Stanovich & Cunningham, 1992), presence

of an older sibling (Hoff-Ginsberg, 1998), parents' educational background (Dollaghan et al., 1999; Gelbal, 2008; Hoff, 2003), and school location (Hoff, 2006; Pace et al., 2017).

Accordingly, the research questions were formulated as follows:

1. What are the levels of vocabulary learning strategy use among middle school students?
2. Does the level of vocabulary learning strategy use differ by gender?
3. Does the level of vocabulary learning strategy use differ by age?
4. Does the level of vocabulary learning strategy use differ by access to technology?
5. Does the level of vocabulary learning strategy use differ by the number of books read?
6. Does the level of vocabulary learning strategy use differ by having an older sibling?
7. Does the level of vocabulary learning strategy use differ by parents' level of education?
8. Does the level of vocabulary learning strategy use differ by the location of the school?

Method

Research Design

This study was designed using the descriptive survey model, which is one of the quantitative research methods deemed most suitable for the research objectives. This model aims to describe an existing situation in all its reality without intervention in the environment, using a large sample group capable of representing the population and thereby enabling generalizations about a universe involving numerous variables (Büyüköztürk et al., 2014; Can, 2014; Creswell, 2012; Fraenkel et al., 2012; Karasar, 2013). The primary rationale for selecting this model lies in its ability to uncover, in a multidimensional and non-intrusive manner, how students currently employ vocabulary learning strategies and how the level of strategy use varies across different individual and environmental variables. In this regard, the descriptive survey model was deemed the most appropriate design, as it enables the direct observation of the current state and allows for generalization based on large samples. Accordingly, considering the data collected from a sample group of 1620 students, this model was assessed to be best suited for making objective, comprehensive, and generalizable inferences regarding students' tendencies in using vocabulary learning strategies.

Population and Sample

The population of this research consists of students aged 11–14 who are enrolled in middle schools. According to official statistical data from the MoNE (2022), there are 4.948.410 students enrolled in public middle schools. In the literature, for populations with a known total size of 100.000 or more, a sample size of 378 (Cohen et al., 2000), 384 (Krejcie & Morgan, 1970), or 400 (Israel, 1992; Neuman, 2014) participants is considered sufficient when assuming a 95% confidence level and a sampling error of 0.05. Based on these reference values, a sample size exceeding 400 is considered adequate to represent the population. Accordingly, the sample for this study was composed of a total of 1620 students using a convenience sampling method, with a minimum of 400 students selected from each grade level within the 11–14 age range.

The variables examined within the scope of this study and the demographic details of the middle school students included in the sample are presented in the following table:

Table 1. Participant demographics

Age	Female	Male	Location of School		Level of Parental Education		Older Sibling		Number of Books Read		Access to Technology	
11	225	179	Village	527	Primary School	839	Yes	902	0	52	Yes	378
12	209	198							1-6	665		
13	203	205	District	652	High School	656	No	718	7-12	588	Limited	435
14	218	183	City	441	University	125			13 ≥	315	No	807

An examination of the data presented in Table 1 reveals that 404 students in the sample (24.93%) were in the 11-year-old age group (fifth grade), 407 students (25.12%) were in the 12-year-old group (sixth grade), 408 students (25.18%) were in the 13-year-old group (seventh grade), and 401 students (24.77%) were in the 14-year-old group (eighth grade). Of the participants, 855 were female (52.8%) and 765 were male (47.2%). A total of 527 students (32.53%) attended schools located in villages, 652 students (40.25%) in district centers, and 441 students (27.22%) in city centers. In terms of parental education levels, the parents of 839 students (51.79%) had completed primary education, those of 656 students (40.49%) had completed high school, and those of 125 students (7.72%) were university graduates. Regarding sibling status, 902 students (55.68%) reported having an older sibling, while 718 students (44.32%) did not. In terms of reading habits, 52 students (3.21%) reported not reading any books in a year, 665 students (41.06%) reported reading 1–6 books, 588 students (36.29%) read 7–12 books, and 315 students (19.44%) read 13 or more books annually. Concerning access to technology, 378 students (23.34%) reported having direct access to technological tools such as personal phones, computers, or wireless internet; 435 students (26.85%) had limited access; and 807 students (49.81%) had no direct access to such technologies.

Data Collection Tools

In this study, data were collected using the Native Language Vocabulary Learning Strategies Scale (NLVLSS). As part of the validity and reliability evaluation of the scale (Memiş, 2023), the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity (BTS) were conducted to assess the suitability of the data for exploratory factor analysis (EFA). The results indicated a KMO value of .901 and a BTS significance level of .001, confirming that the data were appropriate for performing EFA.

For the EFA, the varimax rotation method was employed, and the scree plot, factor loadings, and variance ratios were analyzed. The findings revealed a three-factor structure for the scale, with at least three items loading onto each factor. The factor loadings ranged between 0.53 and 0.82; and the total variance explained by the scale was calculated as 59.66%. Based on these results and references from previous literature (Costello & Osborne, 2005; Field, 2009), the factors and the explained variance were considered acceptable in terms of validity.

To verify the factor structure obtained from the EFA, a confirmatory factor analysis (CFA) was subsequently conducted. The CFA results were as follows: $\chi^2/df = 2.13$; RMSEA = 0.05; SRMR = 0.05; GFI = 0.93; AGFI = 0.91; CFI = 0.98; and NNFI = 0.98. When compared against established benchmarks in the literature (Anderson & Gerbing, 1984; Goodwin, 1999; Hooper et al., 2008), these results supported the three-factor structure of the 36-item scale and demonstrated a high level of model fit.

Furthermore, to assess the reliability of the scale, Cronbach's alpha coefficient was calculated to evaluate the internal consistency of the items. The analysis yielded a result of $\alpha = 0.96$, indicating that the scale is "highly reliable" (Domino & Domino, 2006; George & Mallery, 2003).

The NLVLSS is a 5-point Likert-type scale consisting of 36 items distributed across three dimensions: *learning-oriented strategies* (19 items), *reinforcement-oriented strategies* (10 items), and *confirmation-oriented strategies* (7 items). The minimum total score attainable on the scale is 36, and the maximum is 180. The score ranges for each subdimension are as follows: 19 to 95 for *learning-oriented strategies*, 10 to 50 for *reinforcement-oriented strategies*, and 7 to 35 for *confirmation-oriented strategies*. To determine the overall level of vocabulary learning strategy use, the total score (x) obtained from the

scale is divided by the number of items (36). The resulting numerical value falls between 1 and 5 and reflects the level of native language vocabulary learning strategy use. According to this scoring system, scores between 1.0 and 2.5 indicate “*low*” strategy use, scores between 2.6 and 3.9 indicate “*moderate*” use, and scores between 4.0 and 5.0 indicate “*high*” use.

Data Collection and Analysis

The data for this study were collected from a total of 1620 middle school students during the 2022-2023 and 2023-2024 academic years, forming the research sample. Data collection was carried out using the *Native Language Vocabulary Learning Strategies Scale* (NLVLSS), a 36-item instrument comprising three dimensions, along with a personal information form. Participation was voluntary, and the process was conducted with the support of the teachers responsible for the students’ classes. Normality analyses indicated that the data followed a normal distribution; therefore, parametric tests were employed. In this context, descriptive statistics were utilized to determine students’ levels of native language vocabulary learning strategy use. Independent samples t-tests were conducted to examine the effects of gender and the presence of an older sibling on strategy use levels. Additionally, one-way analysis of variance (ANOVA) was applied to assess whether variables such as age, access to technology, number of books read, parents’ educational background, and school location significantly influenced students’ use of vocabulary learning strategies.

Ethical Approval

Ethical approval indicating that the data collection process posed no ethical concerns was obtained from the Social and Human Sciences Ethics Committee of Bartın University on 16.03.2023 under protocol code 2023-SBB-0143. No personal information or identifiable data were collected from the participants, who voluntarily took part in the study, and ethical principles were rigorously adhered to throughout all stages of the research.

Findings

This study aimed to identify the vocabulary learning strategies employed by middle school students aged 11-14 in acquiring words in their native language and to evaluate the extent of their strategy use. Additionally, it sought to investigate whether variables such as gender, age, access to technology, number of books read, the presence of an older sibling, parental education level, and school location influence students’ levels of vocabulary learning strategy use. The findings derived from the analysis are presented in the following sections:

Table 2. Descriptive analysis of middle school students’ use of vocabulary learning strategies

Grade	N	Learning Oriented Strategies	Reinforcement Oriented Strategies	Confirmation Oriented Strategies	Overall Usage Level
5	404	2,05	2,40	3,71	2,44
6	407	2,26	2,70	4,14	2,69
7	408	2,53	2,90	4,42	3,03
8	401	2,84	3,20	4,86	3,39
Total	1620	2,42	2,80	4,29	2,89

1,0 – 2,5 = Low Level; 2,6 – 3,9 = Moderate Level; 4,0 – 5,0 = High Level

The data presented in Table 2 indicate that middle school students’ overall use of vocabulary learning strategies is at a *moderate level*. Among the subcategories of strategies, *confirmation-oriented strategies* emerged as the most frequently used, whereas *learning-oriented strategies* were the least frequently employed. According to the findings, students utilized confirmation-oriented strategies at a *high level*, reinforcement-oriented strategies at a *moderate level*, and learning-oriented strategies at a *low level*. In terms of grade level, eighth-grade students were found to use vocabulary learning strategies most frequently, while fifth-grade students reported the lowest frequency of use. The order of strategy use by grade level, from highest to lowest, was as follows: *eighth grade > seventh grade > sixth grade > fifth grade*.

Further analysis of the subdimensions and individual items within the scale revealed that the most frequently used vocabulary learning strategy was "asking the teacher or classmates about the meaning of an unknown word", while the least frequently used was "learning other words that frequently co-occur with newly learned words, including their secondary, tertiary, and figurative meanings".

Among learning-oriented strategies, the most commonly used was "marking and researching the meaning of an unknown word encountered while reading", whereas the least used was "learning other words that frequently co-occur with newly learned words, including their secondary, tertiary, and figurative meanings".

In the category of reinforcement-oriented strategies, the most frequently used was "solving vocabulary meaning questions in test books", while the least used was "adding derivational affixes to newly learned words to generate new ones".

For confirmation-oriented strategies, the most preferred strategy was "asking the teacher or classmates about the meaning of an unknown word", and the least preferred was "consulting the vocabulary notebook when uncertain about the meaning of a newly learned word".

Table 3. Independent samples t-test results for differences in strategy use by gender

Gender	N	$\bar{X}$	SD	df	t	p
Female	855	2,86	31,103	1618	-1,229	,219
Male	765	2,92	32,616			

As presented in the Table 3, the data obtained from the study indicate that gender does not have a statistically significant effect on the frequency of vocabulary learning strategy use among middle school students.

Table 4. One-Way ANOVA and Tukey Test results for differences in strategy use by age

One-Way ANOVA									Tukey Test			
Age	N	$\bar{X}$	SD	SV	SS	df	MS	p	Age	Age	MD	p
11	404	2,44	26,33	Between Groups	263960,5	3	87986,8	,00	11	12	-8,97	,00
12	407	2,69	31,63							13	-21,04	,00
13	408	3,03	31,60	Within Groups	1389272,4	1616	859,7		12	14	-34,00	,00
14	401	3,39	27,25							13	-12,07	,00
Total	1620	2,89	31,95	Total	1653232,9	1619			13	14	-25,04	,00
											12,96	,00

The results of the analysis in Table 4 show that age has a statistically significant effect on students' use of vocabulary learning strategies. This effect increases with age between 11 and 14, suggesting that older students tend to use vocabulary learning strategies more frequently than younger ones.

Table 5. One-Way ANOVA and Tukey test results for differences in strategy use by access to technology

One-Way ANOVA									Tukey Test			
A.T.	N	$\bar{X}$	SD	SV	SS	df	MS	p	A.T.	A.T.	MD	p
Yes	378	3,59	18,5	Between Groups	383356,7	2	191678,4	,00	Yes	Limited	23,8	,00
Limited	435	2,94	31,4		Within Groups	1249336,1	1617			772,6	No	38,5
No	807	2,53	29,3	Total	1632692,9	1619			Limited	No	15,0	,00
Total	1620	2,89	31,8									

As shown in Table 5, students' access to technology has a statistically significant effect on their frequency of using vocabulary learning strategies. The difference is in favor of the group with access to technology, indicating a positive impact of technology availability on strategy use.

Table 6. One-Way ANOVA and Tukey Test results for differences in strategy use by number of books read by participants

One-Way ANOVA									Tukey Test			
Number of Books	N	$\bar{X}$	SD	SV	SS	df	MS	p	Number of Books	Number of Books	MD	p
0	52	2,16	18,28	Between	165769,6	3	55256,5	.00	0	1-6	-17,1	,01
1-6	665	2,64	30,17	Groups						7-12	-31,1	,00
7-12	588	3,03	31,17	Within	13 ≥	-40,1	,00					
13 ≥	315	3,28	30,59	Groups	1486233,3	1616	919,6		1-6	7-12	-14,0	,00
Total	1620	2,89	31,94	Total	1652002,9	1619	13 ≥		-9,0	,00		
							7-12		13 ≥	-9,0	,00	

The results in Table 6 show that the number of books read significantly affects the frequency of vocabulary learning strategy use among middle school students. The more books students read, the more frequently they tend to use vocabulary learning strategies.

Table 7. Independent samples t-test results for differences in strategy use by having an older sibling

Older Sibling	N	$\bar{X}$	SD	df	T	p
Var	902	2,85	31,79	1618	-1,869	,062
Yok	718	2,93	31,82			

As shown in Table 7, the presence or absence of an older sibling does not result in a statistically significant difference in the frequency of vocabulary learning strategy use.

Table 8. One-Way ANOVA and Tukey Test results for differences in strategy use by parental education level

Table 1. Descriptive Statistics and Results of One-Way ANOVA and Tukey Test												
Education Level	One-Way ANOVA								Tukey Test			
	N	$\bar{X}$	SD	SV	SS	df	MS	p	Education Level	Education Level	MD	p
Primary School	839	2,59	29,41	Between Groups	301766,1	2	150883,1	,00	Primary School	High School	-16,9	,00
High School	656	3,06	30,86	Within Groups	1374498,9	1617	850,1			University	-48,6	,00
University	125	3,94	14,28	Total	1676264,9	1619			High School	University	-31,6	,00
Total	1620	2,89	32,17									

The analyses in Table 8 indicate that parental education level significantly influences students' use of vocabulary learning strategies. As the education level of the parents increases, the students' frequency of strategy use also increases significantly.

Table 9. One-Way ANOVA and Tukey Test results for differences in strategy use by school location

One-Way ANOVA									Tukey Test			
School Location	N	$\bar{X}$	SD	SV	SS	df	MS	p	School Location	School Location	MD	p
Village	527	2,56	28,29	Between Groups	162361,7	2	81180,8	,00	Village	District	-12,2	,00
District	652	2,89	31,44	Within Groups	1480287,2	1617	915,4			City	-26,0	,00
City	441	3,28	30,72	Total	1642648,9	1619			District	City	-13,7	,00
Total	1620	2,89	31,85									

The analysis results in Table 9 demonstrate that the location of the school significantly affects students' frequency of using vocabulary learning strategies. This effect is positive, increasing from rural to urban areas, indicating that students in urban schools tend to use these strategies more frequently than those in rural schools.

Discussion and Conclusion

This study aimed to identify the vocabulary learning strategies used by middle school students when acquiring new words in their native language, as well as the extent to which they utilize these strategies. The findings of the research can be summarized as follows:

Students enrolled in middle schools use vocabulary learning strategies at a *moderate level* in their efforts to expand their vocabulary both during and outside of class through independent study. Among the different types of strategies that guide their learning activities, *confirmation-oriented strategies* were the most preferred, while *learning-oriented strategies* were the least used. Specifically, confirmation-oriented strategies were employed at a *high level*, reinforcement-oriented strategies at a *moderate level*, and learning-oriented strategies at a *low level*. The student group that used vocabulary learning strategies the most was at the eighth-grade level, whereas the fifth-grade students reported the lowest usage. The frequency of strategy use increased with grade level in the following order: *eighth grade > seventh grade > sixth grade > fifth grade*.

In a related study that focused on the use levels of vocabulary teaching strategies employed by instructors within the scope of native language education (Memiş, 2024), it was similarly found that Turkish language teachers—parallel to the findings on students in the present study—use vocabulary teaching strategies at a moderate level. This parallel suggests that neither the teachers, who guide the instructional process, nor the students, who are active agents in the learning process, currently use vocabulary strategies at an optimal level for developing personal vocabulary. In the aforementioned study (Memiş, 2024), the frequency of teachers' use of vocabulary teaching strategies followed the order: *control > reinforcement > explanation > skill development > teaching > guidance*. The fact that teachers most frequently employed control strategies, while students most frequently used confirmation strategies, and that both teachers and students least frequently used guidance and learning strategies respectively, indicates a notable alignment between the two findings. The tendency of teachers to focus more on monitoring rather than guiding the learning process may have contributed to students gravitating toward strategies centered on confirmation and reinforcement rather than those oriented toward learning. This situation suggests that in the absence of instructional guidance, students may struggle to develop their own learning strategies and instead manage the process primarily by trying to consolidate existing knowledge. When the results of both studies are considered together, it becomes evident that there is a strong interaction between the strategy use habits of teachers and students; the strategies preferred by teachers in teaching influence the strategies students adopt in learning. Both groups appear to prioritize controlling and reinforcing strategies, while falling short in terms of guiding the process and employing conscious, strategic learning approaches. In this context, increasing teachers' use of

guidance strategies may support students in more actively employing independent vocabulary learning strategies. Considering that teaching and learning are complementary processes, it can be asserted that there is a direct relationship between the teacher's guiding role and the student's development of active learning strategies. Therefore, teachers need to enhance their awareness of vocabulary teaching strategies and restructure their instructional approaches—not merely to transfer knowledge and monitor its acquisition—but also to promote the development of students' strategic learning skills.

In order to raise middle school students' moderate level of vocabulary learning strategy use to a high level, it is essential first to ensure that Turkish language teachers working in schools are adequately informed about vocabulary learning and teaching strategies. This can be achieved through in-service training programs and seminars held throughout the academic year. Following this, students should be informed about vocabulary learning strategies that they can use not only during Turkish language class activities but also in managing their own independent vocabulary learning outside the classroom. It is important to raise students' awareness on this matter and to provide training that enables them to apply these strategies naturally—without the need for external guidance from teachers or parents. In this context, involving English language teachers and adopting a shared understanding in the language education process—across both native and foreign language instruction—may further support the development of students' use of vocabulary learning strategies. Although native language education and foreign language teaching are distinct fields, they share common ground in terms of vocabulary learning strategies. Certain strategies—particularly the use of contextual clues, morphological analysis, and word mapping—can be effectively employed in both native and foreign language learning (Blachowicz & Fisher, 2014; Stahl & Nagy, 2006). This highlights the potential for these two subject areas to complement one another in helping students grasp the fundamental principles of vocabulary learning strategies. Considering that most existing research on vocabulary learning strategies has been conducted in the context of foreign or second language instruction, it is reasonable to assume that foreign language teachers have greater access to academic knowledge and resources on this topic. Therefore, collaborative efforts among teachers—particularly through interdisciplinary cooperation between native and foreign language educators—can help develop a shared awareness of vocabulary teaching and learning among both teachers and students. This proposal can be practically implemented through regular departmental meetings and in-service training seminars already held at the beginning, middle, and end of each academic term.

The high level of use of *confirmation-oriented strategies*, which are the most frequently employed by students, reflects their need to verify word meanings and reinforce their learning. This tendency suggests that students seek a reliable confirmation mechanism in the process of vocabulary learning and that they often depend on feedback from others to strengthen their understanding (Blachowicz & Fisher, 2014; Nagy & Scott, 2000). Especially given that students in this age group have not yet fully developed abstract thinking skills, they may prefer seeking validation rather than inferring word meanings independently (Cain & Oakhill, 2011). The frequent use of confirmation-oriented strategies in students' independent vocabulary development efforts suggests that they often encounter new words, attempt to learn them, and feel the need to verify the accuracy of their understanding. This pattern also implies that middle school students may experience a lack of confidence in their independent vocabulary learning processes, thereby necessitating a confirmatory and supervisory mechanism. The moderate use of reinforcement-oriented strategies indicates that students do engage in repeating newly learned words to some extent; however, such repetitions may not be systematic or consistent. Existing literature (Graves, 2006; Perfetti & Stafura, 2014) emphasizes that reinforcement strategies play a critical role in supporting long-term vocabulary retention. Nonetheless, for students to apply these strategies consciously and sustainably, teacher support is often essential. These findings highlight the need for greater guidance and scaffolding to help students consolidate and make their word knowledge more permanent. The low level of preference for *learning-oriented strategies*, on the other hand, points to

students' limited awareness of independent vocabulary learning (Kaya, 2023), insufficient time spent on vocabulary study outside of class, lack of knowledge about such strategies, and uncertainty about how to use them effectively. The emphasis on direct instruction in the current educational system may also hinder students from acting independently in vocabulary learning (Marzano, 2004; Stahl & Nagy, 2006). Furthermore, the low usage of learning strategies may be associated with students not viewing vocabulary learning as a personal responsibility (Snow et al., 2005). Given that learning-oriented strategies represent the most critical type of strategy for managing one's own vocabulary learning and development, this insufficient and low level of usage should be addressed through explicit instruction, awareness-raising, and skills training focused on these strategies. Such instruction is particularly important given the limited time allocated to native language courses, the restricted time available for vocabulary teaching, and the finite number of words that can be directly taught within a lesson (Memiş, 2019b; Reilly, 2019; Stoewer & Musk, 2019). Enhancing students' knowledge and application of learning strategies can help compensate for these instructional limitations, while also supporting their ability to independently acquire vocabulary outside the classroom. When learners develop greater awareness within the framework of language education and take responsibility for their own learning processes, it is well documented that they not only use language skills more effectively but also experience improved academic achievement (Dafei, 2007; Oxford, 2016; Wong & Nunan, 2011). Therefore, providing students with education on vocabulary learning strategies can significantly contribute not only to academic success, but also to the development of literacy skills and the acquisition of a broader and more functional vocabulary in their native language (Beck et al., 2013; Graves, 2006; Wright & Cervetti, 2017). All these findings point to the need for greater awareness-raising among students regarding vocabulary learning strategies and, in particular, the promotion of learning-oriented strategies. In this context, studies in the literature (Beck et al., 2013; Biemiller, 2010) emphasize that explicit instruction in vocabulary strategies by teachers significantly improves students' vocabulary learning habits. Accordingly, it is essential for educators to guide students in the effective use of these strategies and to provide supportive learning environments conducive to strategic vocabulary acquisition.

Among the *confirmation-oriented strategies* - identified as the most frequently preferred strategy group - "*asking the teacher or classmates about the meaning of an unknown word*" was found to be the most commonly used strategy. This strategy also ranked as the most preferred across all vocabulary learning strategies. On the other hand, the least frequently used confirmation-oriented strategy was "*consulting a vocabulary notebook when uncertain about the meaning of a newly learned word*". In this context, when middle school students encounter an unfamiliar word, their tendency to seek clarification from individuals they perceive as more knowledgeable or experienced—such as teachers, older peers, or family members—can be considered highly functional in preventing incorrect learning during independent vocabulary acquisition and avoiding potential misuse of words in the future. Moreover, the fact that school-level Turkish dictionaries, which are often the first and most accessible resource for students, are not adequately designed to enable independent and accurate understanding of word meanings plays a critical role in this reliance. Research has shown (Baskın, 2017; Baş, 2013; Boz, 2006; Can & Deniz, 2016; Karadağ, 2011; Okur, 2011; Taga, 2022) that these dictionaries generally provide only the primary, surface-level meanings of words, with limited or no contextualization, minimal definitions, and often no example sentences, making them unsuitable for independent use by students at this developmental stage. Consequently, students are often compelled to seek human assistance when clarifying word meanings, especially in the earlier years of middle school. This need is further reinforced by students' developing cognitive maturity, limited world knowledge, and difficulty understanding abstract vocabulary, all of which complicate their ability to interpret definitions without support. When these challenges are coupled with limited dictionary skills and the inadequacy of available dictionary resources, students increasingly rely on external support. While this reliance on asking others may be considered normal, useful, and functional during the first two years of middle school, it is important

that students gradually shift in the later years to independent vocabulary research using reliable sources. It is the responsibility of native language teachers to equip students with the skills necessary to independently search for, find, and verify word meanings (Chi, 1998). Therefore, it is essential to provide awareness training and skill-building instruction, followed by monitoring whether students are applying these skills. Studies in the literature (Ari, 2006; Göçer, 2001; Maden & Durukan, 2019; Melanlıoğlu, 2013; Sarigül, 1999) also emphasize the responsibility of teachers in guiding students to investigate word meanings and underline the importance of explicitly teaching dictionary skills to middle school students.

Among the *reinforcement-oriented strategies*, which were found to be used at a moderate frequency, the most commonly employed was "*solving vocabulary-related questions in test books*". The fact that middle school students rely on test books even in their personal vocabulary development activities may be interpreted as a reflection and indicator of the test- and exam-oriented nature of the Turkish education system, which exerts pressure on all stakeholders—including teachers, students, parents, and school administrators—and leads to various negative consequences (Büyüköztürk, 2016; Çetin & Ünsal, 2019; Gümüş, 2018; Özer Özkan & Turan, 2021; Turkish Education Association, 2010). In essence, the goal of vocabulary development is to enhance students' language skills and promote their effective use, not merely to improve exam performance. A broad and functional vocabulary is essential—not for scoring high on tests—but for developing and internalizing comprehension and expression skills, which serve vital functions in real-life communication. Although this aim is clearly stated in the "specific objectives" section of the Turkish language curriculum (MoNE, 2019, 2024), it often remains in the background due to the exam-focused identity of the Turkish education system. This system tends to prioritize gaining admission to prestigious schools, obtaining quality diplomas, and ultimately securing high-paying jobs—all of which are perceived as contingent on achieving high test scores. As a result, students tend to focus on solving vocabulary questions in test books, rather than pursuing the curricular goals of "enriching their personal vocabulary to cultivate language awareness and aesthetic appreciation, and to expand their emotional, cognitive, and imaginative worlds" (MoNE, 2019, 2024), as revealed in this study. However, a well-developed, extensive, and in-depth vocabulary equips individuals from an early age with critical skills such as complete and nuanced comprehension, comparison, inference-making, evaluation, and analytical thinking (Karadağ, 2022; Karatay, 2007; Maden, 2021; Memiş, 2018a; Özbay & Melanlıoğlu, 2008; Schmitt, 2014). These abilities, in turn, increase students' potential to perform well not only during the school term but also in national exams. Due to the strong positive correlation between vocabulary knowledge and reading comprehension (Beck & McKeown, 1991; Cain & Oakhill, 2011; Elleman et al., 2009), many exam questions in subjects such as science and social studies—outside the scope of Turkish language classes—can be solved solely through reading comprehension. This has been demonstrated in numerous studies (Bayat et al., 2014; Ceran & Deniz, 2015; Tatar & Soylu, 2006; Yazıcı, 2006). Therefore, rather than encouraging students to solve vocabulary questions in test books solely for the purpose of exam preparation, it would be much more appropriate to guide them toward activities that develop their foundational language skills, which will ultimately support both their academic performance and long-term literacy.

Among the *reinforcement-oriented strategies*, the least frequently used by students was “*attempting to generate new words by adding derivational affixes to newly learned words*”. The fact that middle school students do not sufficiently benefit from this practice—which could reinforce their understanding and help expand their vocabulary—indicates a lack of knowledge and awareness regarding the functional use of derivational affixes. Although the current Turkish language curriculum (MoNE, 2019, 2024) includes learning outcomes related to explaining and distinguishing the functions of derivational affixes and understanding the logic of word formation within vocabulary development activities, textbooks offer few activities that actually support these objectives. Moreover, there is no clear guidance on how to deliver instruction that fosters awareness and understanding of affix functions and word formation principles. As a result, teachers often address derivational affixes through a grammar-based, exam-oriented approach, aligned with how such topics appear in midterm exams or secondary school entrance assessments. This limits students’ opportunities to engage with one of the core structural features of the Turkish language, namely the functional use of derivational affixes. In contrast, research has consistently shown that morphological knowledge and morphological awareness training contribute significantly to the development of vocabulary through new word learning (Bowers, 2012; Good, 2011; Larsen & Nippold, 2007; Maag, 2007; Memiş, 2018c), as well as to the ability to infer meanings of unfamiliar words (Bertram et al., 2000; Memiş, 2018d; Muse, 2005; Onan, 2014), and to improvements in reading comprehension (Carlisle, 2000; Foorman et al., 2012; Katz, 2004; Loudermill, 2014; Silva & Martins-Reis, 2017). While languages share structural similarities across categories, each has its own unique morphological system, which can either facilitate or hinder vocabulary learning and reading comprehension depending on how well learners are equipped to handle that structure. Given that Turkish is a morphology-driven, agglutinative language, incorporating strategies related to derivational affixes can help students engage more effectively with vocabulary by analyzing word meanings, decoding structurally complex words, and attending to grammatical and contextual clues within texts. As emphasized in the literature (Bowers et al., 2010; Carlisle, 2010; Memiş, 2019c; Stahl & Nagy, 2006), morphological knowledge and awareness enhance memory retention and word recall. The findings of a study examining morphological awareness among middle school students in Turkey (Memiş, 2019a) align with the current study’s results concerning the low use of derivational affix strategies. That study reported that fifth and sixth grade students exhibited low levels of morphological awareness, whereas seventh and eighth grade students demonstrated moderate levels. Considering students’ current low proficiency in using derivational affixes and their overall low-to-moderate morphological awareness, targeted efforts are needed to enhance these areas. To address this, Turkish language classes at the middle school level should frequently incorporate activities that demonstrate the functions of derivational and inflectional affixes. Students should be provided with explicit instruction that builds awareness and a solid foundation in these structures (Onan, 2009). Additionally, instructional strategies based on the root-affix-stem relationship should be taught, considering Turkish’s characteristic of maintaining semantic transparency between derived words. This will not only improve vocabulary learning but also help students develop a deeper understanding of the structural logic of their native language.

Among the *learning-oriented strategies*, which were identified as the least frequently used overall, the most commonly employed was “*marking an unfamiliar word while reading and researching its meaning*”. This suggests that students primarily rely on their reading skills to develop and expand their personal vocabulary, and that their acquisition of new words is largely based on encounters with unfamiliar vocabulary during reading. Indeed, in efforts to develop vocabulary in the native language, an approach based on extensive reading and incidental vocabulary acquisition is often adopted, with the aim of fostering vocabulary growth through exposure to texts (Cunningham, 2005; Lightbown & Spada, 2006; McCarthy et al., 2010; Nation, 2008; Pressley et al., 2007; Schmitt, 2000). Due to the limited time allocated to native language instruction, and the resulting focus on developing core language skills, this approach assumes that words will be incidentally learned—particularly through independent reading. However,

for incidental vocabulary acquisition to be effective, students must engage in extensive and consistent reading, and research shows that only high-proficiency readers are able to significantly grow their personal vocabulary through this method, whereas students with poor reading comprehension benefit much less (Nagy et al., 1985; Nation, 2004; Pellicer-Sánchez & Schmitt, 2010; Swanborn & de Glopper, 1999). Given these disparities, issues such as ensuring equivalent vocabulary size and richness across students of the same age and grade level, and ensuring equal access to similar quality and quantity of reading material, become critical. To guarantee a more equitable vocabulary development through reading, one of the key steps education policymakers can take is to identify or commission grade-appropriate books at the national level and ensure their free and universal distribution to students across the country. If vocabulary learning through reading remains limited to textbook content, students' personal lexical wealth is likely to remain insufficient, and it becomes nearly impossible to establish a common minimum standard of essential vocabulary that all students are expected to know.

Among the *learning-oriented strategies*, the least preferred by students was "*learning other words with which newly learned words are used, including their secondary, tertiary, and figurative meanings*". This strategy also ranked as the least utilized across all vocabulary learning strategies. This finding suggests that, in their efforts to expand their vocabulary, middle school students tend to neglect two of the three core dimensions of lexical knowledge: depth and density. These dimensions, which constitute the subcomponents of vocabulary knowledge, are defined (Anderson & Freebody, 1981; Göğüş, 1978; Schmitt, 2014) as follows: knowing multiple meanings of a word relates to the *depth* dimension; knowing a large number of words across various topics pertains to *breadth*; and knowing many words related to a specific subject reflects the *density* dimension. The low frequency of use of this strategy may stem from students' lack of awareness about multiple meanings of newly acquired words, their uncertainty about how to explore these meanings, and the absence of such content in commonly used reference materials such as school dictionaries. To address the limited development of the depth and density dimensions of students' vocabulary knowledge – as revealed by the findings of this study – teachers should incorporate not only the primary meanings of target words but also their secondary and figurative meanings, as well as common collocations and word pairings, during direct vocabulary instruction. Students should be made aware that words often possess multiple meanings and that these meanings can shift depending on the context. Moreover, students should be encouraged to pay attention to this aspect while engaging in independent vocabulary learning. In addition to these pedagogical strategies, student reference materials – particularly dictionaries designed for middle school learners – should be revised and enriched by their authors to better reflect the semantic depth and density dimensions of vocabulary. Providing students with more comprehensive tools would enhance their ability to understand the nuances and contextual uses of the words they encounter.

The study also explored whether the use of vocabulary learning strategies varied according to the variables of gender, presence of an older sibling, age, access to technology, number of books read, parental education level, and school location. The findings indicated that gender and the presence of an older sibling had no significant impact on the frequency of vocabulary strategy use. In contrast, age, access to technology, number of books read, parental education level, and school location were found to significantly influence students' use of vocabulary learning strategies.

Although gender was not identified as a significant factor in this study, existing literature suggests that gender may exert a limited influence on native language acquisition and vocabulary development. Research examining the role of gender in language development and vocabulary learning (Eriksson et al., 2012; Rinaldi et al., 2023) indicates that girls generally display earlier and more rapid language development compared to boys. Similarly, other studies (Bornstein et al., 2004; Lange et al., 2016) report that girls tend to use more communicative gestures, possess larger vocabularies, and consistently perform better in language-related tasks. These differences have often been attributed to biological factors, such as variations in brain structure, memory systems, and socialization patterns

(Kaushanskaya et al., 2013). However, researchers also highlight that gender exerts only a small effect on language acquisition, with individual differences playing a more substantial role in explaining the observed variations (Eriksson et al., 2012). In this context, the finding that gender does not significantly influence middle school students' use of vocabulary learning strategies suggests that individual cognitive strategies and personal differences may be more decisive in vocabulary learning processes. Some studies (Hyde & Linn, 1988; Marjanovic-Umek & Fekonja-Peklaj, 2017) have shown that gender-related differences are more pronounced during early childhood but tend to diminish as formal education progresses. While it is acknowledged that girls may possess certain advantages in early language development (Bornstein et al., 2004), it can be argued that factors such as individual awareness, reading habits, and cognitive flexibility have a more critical impact on the use of vocabulary learning strategies (Cain & Oakhill, 2011). Therefore, the limited influence of gender on vocabulary learning strategies underscores the importance of enhancing strategy awareness to support students' individual vocabulary development skills. Accordingly, guidance and training programs designed to raise students' awareness of vocabulary learning strategies are likely to be beneficial regardless of gender.

Another variable found to have no statistically significant effect on the use of vocabulary learning strategies in this study was having an older sibling. However, the literature does contain various findings suggesting that sibling relationships can influence language acquisition, development, and vocabulary learning. In particular, within a sociocultural context, older siblings are often described as linguistic models for their younger siblings during the processes of language acquisition and vocabulary development (Bridges & Hoff, 2014; Hoff-Ginsberg, 1998; Hoff, 2006; Shatz & Gelman, 1973). The fact that older siblings typically possess more advanced language skills during early childhood and frequently offer explanations to their younger siblings may create either direct or indirect interactions that support vocabulary learning. Within this framework, younger siblings may benefit from asking older siblings about word meanings, learning new vocabulary through passive exposure to their conversations, or verifying inferred meanings—all of which can be considered forms of learning and consolidation strategies. Nonetheless, the current study found that having an older sibling does not significantly affect the frequency of vocabulary learning strategy use. These findings suggest that individual learning habits, cognitive development, and other sources of social interaction involved in the vocabulary learning process – such as parents, teachers, and peers – (Pancsofar et al., 2010; Saracho, 2017) may play a more decisive role. Furthermore, they imply that the contributions of older siblings to the vocabulary development of younger siblings are likely to occur indirectly rather than through deliberate strategy use. Indeed, some studies (Gleason & Ratner, 2016; Song et al., 2014) have demonstrated that, although older siblings may act as linguistic models, younger siblings' language development is more significantly shaped by factors such as parental language input, academic environments, and individual reading habits. In this regard, to gain a better understanding of whether the linguistic input provided by older siblings meaningfully affects vocabulary learning strategy use, future research should examine the duration, intensity, and content of these interactions in greater detail. Moreover, the finding that having an older sibling does not significantly enhance strategy use highlights the importance of making training programs aimed at raising awareness of vocabulary learning strategies equally accessible to all students, regardless of their familial interaction backgrounds.

According to the findings, age was found to significantly influence the frequency of vocabulary learning strategy use, with strategy use increasing as students advanced in age within the 11–14 age range. This outcome may be attributed to the fact that, as students grow older, they develop greater awareness of how to utilize vocabulary learning strategies and, due to the advancement of their abstract thinking skills, become more confident in managing their own learning without the need for constant guidance. In this context, Cain and Oakhill (2011) also emphasize that as children age, they tend to

become more active participants in the vocabulary learning process, and with increasing cognitive flexibility, their potential to use vocabulary strategies more effectively expands. Thus, the impact of age on vocabulary strategy use can be linked to both cognitive and metacognitive development, as well as a growing understanding of how to approach vocabulary learning. Previous studies (Chen, 2014; Pintrich & De Groot, 1990; Weil et al., 2013; Zimmerman, 2002) have demonstrated that as students mature, they engage more consciously in learning activities and tend to adopt more complex methods and strategies. Specifically, within the context of vocabulary learning, it is recognized that older students are more proficient than their younger counterparts at employing techniques such as analyzing word parts, interpreting contextual clues, and forming word associations (Biemiller & Boote, 2006; Carlisle, 2000; Nagy et al., 1985). Moreover, research suggests that as students age, they are more likely to develop intrinsic motivation for vocabulary learning and assume a more independent role in expanding their personal vocabularies (Anderson & Freebody, 1981; Biemiller & Boote, 2006; Graves, 2006). Altogether, these findings suggest that with increasing age, students tend to use vocabulary learning strategies in a more systematic and intentional manner. Nevertheless, for this process to reach its full potential, structured guidance aimed at fostering conscious awareness of strategy use remains essential.

Another key finding of the study is that access to technology significantly influences middle school students' frequency of vocabulary learning strategy use. Students who have access to technological tools benefit more from these strategies compared to their peers without direct access to technology. Considering that access to technology is closely linked to family income levels (Korat, 2010), and that socioeconomic well-being positively impacts overall learning and academic achievement (Akan, 1994; Dinçer & Kolaşin-Uysal, 2010; Keskin & Sezgin, 2009; Kocaman, 2008; Öksüzler & Sürekçi, 2010; Şirin, 2005; Türkoğlu, 2008), it becomes evident that ensuring equal educational opportunities for students with limited or no access to technology is a fundamental responsibility of the government and the Ministry of National Education. To reduce the academic achievement gap between students from low-income families and their more advantaged peers, and to support the principle of equal opportunity in education as a core tenet of the social welfare state, policy measures must be taken without exception. These should include the establishment of technology rooms or centers in every school, the free provision of educational technologies and internet access to students on an individual basis, and infrastructure investments to improve access to technology in rural areas and village schools. Such measures should be implemented not as optional initiatives but as mandatory state policies, ensuring that every student, regardless of background, can benefit equally from digital tools that support vocabulary learning and broader educational development.

The study also found that the number of books read has a statistically significant effect on middle school students' use of vocabulary learning strategies. Specifically, as the number of books read increases, so does the frequency of strategy use. Book reading, which was found to enhance the use of vocabulary learning strategies, is also known to improve academic achievement (Ateş, 2008; Gallik, 1999; Kızgın & Baştuğ, 2020; Özçelik, 2011; Stanovich & Cunningham, 1992; Sullivan & Brown, 2015; Yılmaz, 2012). Furthermore, it positively influences numerous factors associated with academic success, such as reading and learning speed linked to reading comprehension (Radović & Vuković, 2024), study habits (Iheakanwa et al., 2021), world knowledge (Merga, 2016), and learning motivation (Bakkaloğlu & Pilten, 2023). For this reason, it is essential that parents, teachers, and educational policymakers make a greater effort to increase the number of books middle school students read and to cultivate habitual, sustained reading practices that support vocabulary growth. Within this scope, teachers should work in cooperation with families to identify and provide appropriate books, guide and motivate students, and closely monitor reading activities. In addition, in order to eliminate the lack of access to appropriate books—especially for students with limited resources—there must be a national policy of ensuring a library in every school. Locally-driven book donation campaigns should be supported with increased

nationwide visibility, and the Ministry of National Education should fulfill its responsibility as a book provider by allocating a dedicated annual budget for books to schools. As of 2025, the continued need for education faculty students to establish libraries in various urban, rural, and village schools under the framework of “community service courses” clearly reveals that many public schools still lack basic library infrastructure. Consequently, students from low-income families continue to face barriers in accessing books. Solving this issue—one that could be resolved with effective planning and financial support—requires immediate action from the responsible institutions.

According to the data obtained in this study, 52 students (3.21%) reported reading no books in the past year, 665 students (41.06%) read between 1 and 6 books, 588 students (36.29%) read between 7 and 12 books, and 315 students (19.44%) read 13 or more books. The fact that 1,305 students reported reading fewer than 13 books in a year is quite thought-provoking, as it indicates that 80.56% of all participants fall into this category. According to widely accepted standards in the literature on reading habits, individuals who read at least 21 (ALA, 1978; Şirin & Soylu, 2003) or 24 (Yılmaz, 2000) books per year are classified as high-level readers, those who read between 6–20 (ALA, 1978; Şirin & Soylu, 2003) or 12–24 (Yılmaz, 2000) books are considered moderate-level readers, and those who read fewer than 6 books annually are regarded as low-level readers. However, it is important to note that these classifications were developed without accounting for age groups and during a time when television, computers, and social media were not yet widespread. Therefore, these criteria may no longer fully reflect present-day realities. In particular, the unique circumstances of today’s children necessitate the development of updated benchmarks for reading frequency, which would provide a more accurate basis for evaluation in contemporary educational contexts.

Nevertheless, when the aforementioned criteria for assessing reading habits are applied to the participants in this study, it is observed that 19.44% of the students demonstrate a high-level reading habit, 36.29% fall within the moderate level, 41.06% have a low-level reading habit, and 3.21% have no reading habit at all. Based on these findings, it can be inferred that at least 44.27% of middle school students are in need of support to develop regular reading habits. In a study (MoNE, 2007b) conducted by the Turkish Ministry of National Department of Research, Development and Projects in 2007, it was reported that 33.53% of primary and middle school students either owned fewer than 10 books or could not specify a number. Another study conducted in 2015 (Deniz, 2015) found that 46.9% of middle school students read fewer than 10 books per year. According to the Ministry’s official performance indicators, the average number of books read in 2019 was 24 for primary school students, 9 for middle school students, and 4 for high school students. These findings confirm the urgent need for measures and solution-oriented strategies to improve reading habits, particularly at the primary and middle school levels. Indeed, the data collected over the past 15 years suggest that when a reading habit is not cultivated in the early years of schooling, it tends to decline progressively due to factors such as adolescence, increasing exposure to external stimuli, shifting interests, and the pressure of high-stakes exams for secondary and higher education. Consequently, unless this issue is addressed, it is inevitable that many students will complete 12 years of compulsory education without developing a strong reading habit. Numerous studies also point out that only 15–20% of middle school students qualify as high-level readers (Balci, 2009; Gönen et al., 2004; Mete, 2012), highlighting the necessity for immediate interventions. Moreover, considering the positive correlation between vocabulary learning strategies, vocabulary size, and reading comprehension (Akaydin, 2018; Chun et al., 2012; Rahayuningsih, 2020; Santi et al., 2021; Yıldız, 2013), it becomes evident that reading habits influence not only academic performance but also the process of word acquisition and vocabulary development. Regular reading increases the frequency with which individuals encounter new words, facilitating comprehension, contextual usage, and long-term retention. Additionally, reading practices enhance the ability to effectively apply vocabulary learning strategies, thereby supporting the development of personalized word-learning methods. In this regard, encouraging strong reading habits from an early age should be

considered a critical priority for expanding students' vocabularies and enhancing their linguistic competence.

The findings of this study reveal that parents' educational level has a significant impact on middle school students' use of vocabulary learning strategies. Specifically, as the education level of the mother and/or father increases, students' use of these strategies also increases significantly; conversely, students whose parents have lower levels of education tend to use these strategies less frequently. This suggests that, as in many other academic areas, more educated parents tend to support and guide their children more actively in developing their vocabulary, and that children from such families are generally more diligent and attentive in vocabulary learning compared to those from less-educated households. Numerous previous studies have also shown a positive correlation between parental education levels and students' academic achievement, particularly in native language courses (Bölükbaş, 2010; Gelbal, 2008; MoNE, 2007a), as well as in other subject areas (Anıl, 2009; Aslanargun et al., 2016; Elmacioğlu, 1998; İpek, 2011; Metin, 2013; Pala, 2008; Şirin, 2005; Vural, 2004; Yıldırım, 2006). These differences in achievement are often attributed to the willingness of educated parents—especially at the primary and secondary levels—to engage in their children's schoolwork, support their reading habits, assist in problem-solving, and foster an overall positive educational environment. A study by Davis-Kean (2005) emphasized that the educational attainment of parents significantly influences children's academic success, mainly through their expectations and the learning environments they create at home. Similarly, Iwaniec (2018) found that parents' educational background influences students' motivation in language learning, with those from more educated families exhibiting higher levels of motivation. These findings from the literature indirectly underscore the critical role of family support in the development of students' vocabulary and their use of learning strategies. Given that parents with higher educational backgrounds tend to provide greater cognitive and emotional support to their children (Hart & Risley, 1995; Sénéchal & LeFevre, 2002), it can be argued that this support helps students become more aware of and more effective in applying vocabulary learning strategies. Moreover, studies have shown that parents' attitudes toward academic achievement significantly shape their children's attitudes toward learning (Dotterer & Wehrspann, 2016; Fan & Chen, 2001; Porumbu & Necşoi, 2013). Therefore, it should be considered that children of less-educated parents may receive less support during the vocabulary learning process. In this context, language education policies and teacher training programs should be structured to encourage families to take a more informed and active role in supporting their children's vocabulary development (Wasik & Hindman, 2011). Particularly, support programs tailored for parents with lower educational backgrounds could enhance students' ability to manage their vocabulary learning more effectively. Implementing literacy development programs for parents may not only improve children's vocabulary learning skills but also contribute to their overall academic achievement.

The study further revealed that the location of the schools attended by middle school students had a statistically significant effect on the frequency with which they employed vocabulary learning strategies. This effect followed a positive trajectory from rural to urban areas. Specifically, students attending schools situated in city centers were found to use vocabulary learning strategies more frequently and at a higher level during their vocabulary acquisition processes. In contrast, students enrolled in village schools utilized these strategies to a noticeably lesser extent compared to their urban peers. Over the long term, this disparity may contribute to differences in vocabulary breadth between children educated in urban areas – where access to educational and developmental resources is greater – and those studying in rural areas, where such resources are more limited. Consistent with previous research on education and academic achievement (Arifoğlu, 2019; Çiftçi & Çağlar, 2014; Dinçer & Uysal, 2009; Öksüzler & Sürekçi, 2010; Suna et al., 2021), the current study also found that factors such as parental education level, school location, access to technology, and the closely related variable of family socioeconomic status exert both positive and negative influences on students' use of vocabulary learning strategies. In particular, for children continuing their education in rural areas, it is considered essential that the schools themselves provide free access to opportunities that are otherwise inaccessible or

difficult to obtain in their immediate environments—such as extracurricular activities, academic support programs, supplementary learning materials, technological tools, and internet access.

Recommendations

Based on the findings and discussions presented in this study, the suggestions previously outlined can be distilled into the following action-oriented recommendations for relevant stakeholders:

- To increase the currently moderate use of vocabulary learning strategies, middle school students should receive awareness-raising instruction, be guided appropriately, and be taught various techniques and methods for independent vocabulary acquisition.
- Given that vocabulary development practices are still largely textbook-dependent, students who are unable to utilize independent vocabulary learning strategies effectively—especially those who show low levels of engagement with learning-oriented strategies—should be informed and encouraged to use such strategies more actively.
- Rather than directing students toward multiple-choice test practices motivated by exam performance concerns, vocabulary enrichment and reinforcement activities should emphasize tasks that foster the development of core language skills.
- The technological infrastructure of schools should be improved to support the use of vocabulary learning strategies through increased availability of digital tools and internet access. To that end, a standard technology room/center should be established in every school; individual students should be granted free access to educational technologies and internet connectivity; investments should be made to enhance technology access in rural schools; and all such provisions should be adopted as state policy and implemented unconditionally.
- The Turkish language curriculum and textbooks should be revised to support the implementation of vocabulary learning strategies, with a particular focus on fostering high-level reading habits as a complementary factor. In this context, teachers should collaborate with families on book selection and procurement, student encouragement, and the monitoring of reading activities at home. A nationwide “one library per school” policy should be adopted, level-appropriate books should be made widely available, campaigns supporting schools in need of books should gain increased visibility, and the Ministry of National Education should fulfill its responsibility as a book provider by allocating a dedicated annual budget to schools for this purpose.
- If vocabulary learning through reading is restricted solely to textbook texts, students' personal word banks will remain insufficient, and a shared standard of essential vocabulary among students cannot be established. To ensure that middle school students across the country develop their personal lexicons to an equitable standard, nationally curated and level-appropriate reading books should be identified and distributed to all students free of charge.
- Considering the observed effects of parental education level, school location, access to technology, and the related variable of family socioeconomic status on both general academic achievement and, specifically in this study, on vocabulary learning strategy use, it is imperative that children living in rural areas be provided with free access to extracurricular activities, academic support programs, supplementary learning materials, technological tools, and internet services through their schools, in order to mitigate existing disparities.

In addition to the recommendations outlined above, the following suggestions can be made for future research based on the findings of this study:

- As the first study to identify the vocabulary learning strategies used by middle school students in the context of mother tongue education, this research may be replicated using the current classification and scale or with new measurement tools developed for alternative vocabulary learning taxonomies, thereby contributing further to the relevant body of literature.
- Future studies may explore whether there is a relationship between middle school students' use of individual vocabulary learning strategies and their proficiency in core language skills as well as their long-term achievement in Turkish language courses.
- A new study may be conducted utilizing qualitative data collection tools to examine in greater depth the vocabulary learning strategies employed by students.
- Innovative research efforts can be directed toward developing new vocabulary acquisition methods to support students in using vocabulary learning strategies more effectively.
- Applied studies may be conducted to examine the relationships between students' vocabulary depth, breadth, and weight, and both their use of vocabulary learning strategies and their reading habits.

Limitations

This study, which is considered significant as the first empirical research in the literature to collect data on vocabulary learning strategies employed by middle school students during their native language education process, has several limitations. Due to the quantitative nature of the measurement tool used in the study, the influence of the data collected from the sample on the findings could not be examined through a qualitative instrument that would directly elicit students' responses. Instead, the findings were interpreted and discussed in light of existing literature and the author's academic expertise. Another limitation stems from the absence of previous pioneering or comparable studies investigating the vocabulary learning strategies employed by middle school students in their native language context. This gap in the literature limited the opportunity for direct comparisons of the findings from various perspectives. To address this limitation, secondary results from existing studies conducted with middle school students within the broader context of vocabulary instruction and learning were taken into account, and the relevant comparisons and discussions were built accordingly.

References

- Akan, F. G. (1994). *İlkokul öğrencilerinin başarı ve başarısızlıklarında aile faktörü* (Thesis No. 30724) [Master's thesis, Hacettepe University]. Council of Higher Education National Thesis Center.
- Akaydın, Ş. (2018). *Yedinci sınıf öğrencilerinin kelime bilgi düzeyleri ile okuduğunu anlama becerileri arasındaki ilişki* (Thesis No. 533754) [Doctoral dissertation, İnönü University]. Council of Higher Education National Thesis Center.
- Al Zahrani, S. M., & Chaudhary, A. (2022). Vocabulary learning strategies in ESP context: Knowledge and implication. *Arab World English Journal*, 13(1), 382-393. <https://doi.org/10.24093/awej/vol13no1.25>
- American Library Association. (1978). *Book reading and library usage: A study of habits and perceptions*. Gallup.
- Anderson, J. C., & Freebody, P. (1981). Vocabulary knowledge. In J. T. Guthrie (Ed.), *Comprehension and teaching: Research reviews* (pp. 77-117). International Reading Association.
- Anderson, J. C., & Gerbing, D. W. (1984). The effect of sampling error on convergence, improper solutions, and goodness of fit indices for maximum likelihood confirmatory factor analysis. *Psychometrika*, 49(2), 155-173. <https://doi.org/10.1007/BF02294170>
- Anıl, D. (2009). Uluslararası Öğrenci başarılarını değerlendirme programı (PISA)'nda Türkiye'deki öğrencilerin fen bilimleri başarılarını etkileyen faktörler. *Eğitim ve Bilim*, 152(34), 87-100.
- Arı, G. (2006). Kelime öğretimi. In C. Yıldız (Ed.), *Kuramdan uygulamaya Türkçe öğretimi* (pp. 311-333). Pegem Akademi.
- Arifoğlu, A. (2019). *Öğrenci başarısına okul etkisinin araştırılması: TIMSS 2015 Türkiye verisine göre çok düzeyli bir analiz* (Thesis No. 582587) [Master's thesis, Hacettepe University]. Council of Higher Education National Thesis Center.
- Arslan, A. (2013). Türkçe öğretmenlerinin proje ve performans ödevleri ile ilgili görüşlerinin değerlendirilmesi. *Dil ve Edebiyat Eğitimi Dergisi*, 2(6), 11-22.
- Aru, S. A. (2013). *Yeni ilköğretim programına göre hazırlanan Türkçe ders kitaplarında kelime hazinesini geliştirmeye yönelik planlamanın incelenmesi* (Thesis No. 336106) [Master's thesis, Gazi University]. Council of Higher Education National Thesis Center.
- Aslanargun, E., Bozkurt, S., & Sarioğlu, S. (2016). Sosyo-ekonomik değişkenlerin öğrencilerin akademik başarıları üzerine etkileri. *Uşak Üniversitesi Sosyal Bilimler Dergisi*, 9(3), 214-234.
- Aslan, T. (2013). *7. sınıf öğrencilerinin Türkçe ders kitaplarındaki anlamını bilmedikleri kelimelerden hareketle söz varlığını geliştirmelerine yönelik bir araştırma* (Thesis No. 333547) [Master's thesis, Gazi University]. Council of Higher Education National Thesis Center.
- Ateş, M. (2008). *İlköğretim ikinci kademe öğrencilerinin okuduğunu anlama düzeyleri ile Türkçe dersine karşı tutumları ve akademik başarıları arasındaki ilişki* (Thesis No. 235252) [Doctoral dissertation, Selçuk University]. Council of Higher Education National Thesis Center.
- Aydın, İ. (2014). Türkçe öğretiminde yazılı anlatım çalışmalarındaki sorunlar üzerine bir inceleme. *Karamanoğlu Mehmetbey Üniversitesi Sosyal ve Ekonomik Araştırmalar Dergisi*, 16(1) 166-170. <https://doi.org/10.18493/kmusekad.51889>
- Aydın, İ., & Aydın, G. (2020). 2018 Türkçe Dersi Öğretim Programı bağlamında 5, 6, 7 ve 8. sınıf Türkçe ders kitaplarındaki söz varlığına yönelik etkinliklerin sözcük öğretimi açısından incelenmesi. *ODÜ Sosyal Bilimler Araştırmaları Dergisi*, 10(1), 1-23.
- Bakkaloğlu, S., & Pilten, G. (2023). Examining the relationship between reading motivation and reading comprehension self-efficacy perception. *International Journal of Psychology and Educational Studies*, 10(1), 144-158. <https://doi.org/10.52380/ijpes.2023.10.1.909>

- Balcı, A. (2009). *İlköğretim 8. Sınıf öğrencilerinin okuma alışkanlık ve ilgileri üzerine bir araştırma* (Thesis No. 228411) [Doctoral dissertation, Gazi University]. Council of Higher Education National Thesis Center.
- Barcroft, J. (2009). Strategies and performance in intentional L2 vocabulary learning. *Language Awareness, 18*(1), 74-89. <https://doi.org/10.1080/09658410802557535>
- Baskın, S. (2017). 5. sınıf öğrencilerinin sözlük ihtiyacı ve ortaokul sözlükleri. *Türkiye Sosyal Araştırmalar Dergisi, 21*(3), 765-789.
- Baskın, S., İşcan, A., Karagöz, B., & Birol, G. (2017). The use of vocabulary learning strategies in teaching Turkish as a second language. *Journal of Education and Practice, 8*(9), 126-134.
- Baş, B. (2013). İlköğretim okulları için hazırlanan deyim sözlükleri üzerine bir değerlendirme. *Ana Dili Eğitimi Dergisi, 1*(1), 24-31. <https://doi.org/10.16916/aded.16016>
- Başdamar, G. (2010). *Yazılı çalışmalar yaptırılarak öğrencilerin sözcük dağarcığını zenginleştirme uygulamaları, etkinlikleri ve ölçme değerlendirmeleri* (Thesis No. 264160) [Master's thesis, Erzincan University]. Council of Higher Education National Thesis Center.
- Bayat, N., Şekercioğlu, G., & Bakır, S. (2014). Okuduğunu anlama ve fen başarısı arasındaki ilişkinin belirlenmesi. *Eğitim ve Bilim, 39*(176), 457-466. <https://doi.org/10.15390/EB.2014.3693>
- Baysal, A. D. (2007). *İlköğretim 7. sınıf Türkçe ders kitaplarının kelime serveti bakımından değerlendirilmesi* (Thesis No. 206184) [Master's thesis, Afyon Kocatepe University]. Council of Higher Education National Thesis Center.
- Beck, I. L., & McKeown, M. G. (1991). Conditions of vocabulary acquisition. In R. Barr, M. L. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (pp. 789-814). Lawrence Erlbaum Associates, Inc.
- Beck, I. L., McKeown, M. G., & Kucan, L. (2013). *Bringing words to life: Robust vocabulary instruction* (2nd ed.). The Guilford Press.
- Bertram, R., Laine, M., & Virkkala, M. (2000). The role of derivational morphology in vocabulary acquisition: Get by with a little help from my morpheme friends. *Scandinavian Journal of Psychology, 4*(41), 287-296. <https://doi.org/10.1111/1467-9450.00201>
- Biçer, N., & Polatcan, F. (2015). Yabancı dil olarak Türkçe öğretiminde kelime öğrenme stratejilerinin değerlendirilmesi. *Türkiyat Araştırmaları Enstitüsü Dergisi, 54*(54), 811-828.
- Biemiller, A. (2010). *Words worth teaching: Closing the vocabulary gap*. SRA/McGraw-Hill
- Biemiller, A., & Boote, C. (2006). An effective method for building meaning vocabulary in primary grades. *Journal of Educational Psychology, 98*(1), 44-62. <https://doi.org/10.1037/0022-0663.98.1.44>
- Blachowicz, C. L. Z., & Fisher, P. J. (2014). *Teaching vocabulary in all classrooms*. Pearson.
- Boers, F., & Lindstromberg, S. (2008). How cognitive linguistics can foster effective vocabulary teaching. In F. Boers & S. Lindstromberg (Eds.), *Cognitive linguistic approaches to teaching vocabulary and phraseology* (pp. 1-64). De Gruyter Mouton.
- Bornstein, M. H., Hahn, C. S., & Haynes, O. M. (2004). Specific and general language performance across early childhood: Stability and gender considerations. *First Language, 24*(3), 267-304. <https://doi.org/10.1177/0142723704045681>
- Bowers, P. N. (2012). *Morphological instruction in the elementary classroom* (Publication No. NS27966) [Doctoral dissertation, Queen's University]. ProQuest Dissertations & Theses Global.
- Bowers, P. N., Kirby, J. R., & Deacon, S. H. (2010). The effects of morphological instruction on literacy skills: A systematic review of the literature. *Review of Educational Research, 80*(2), 144-179. <https://doi.org/10.3102/0034654309359353>
- Boz, E. (2006). Sözlük ve sözlüklük sorunları. In G. Gülsevin & E. Boz (Eds.), *Türkçenin çağdaş sorunları* (pp. 1-44). Gazi Kitabevi.

- Bölükbaş, F. (2010). İlköğretim öğrencilerinin Türkçe dersine yönelik tutumlarının başarı-cinsiyet-ailenin eğitim düzeyi bağlamında değerlendirilmesi. *Turkish Studies*, 5(3), 905-918. <https://doi.org/10.7827/TurkishStudies.1477>
- Brahma, B., & Saikia, P. (2023). Influence of self-regulated learning on the academic procrastination of college students. *Journal of Education and Health Promotion*, 12(1), 1-6. https://doi.org/10.4103/jehp.jehp_1106_22
- Bridges, K., & Hoff, E. (2014). Older sibling influences on the language environment and language development of toddlers in bilingual homes. *Applied Linguistics*, 35(2), 225-241. <https://doi.org/10.1017/S0142716412000379>
- Bulut, B. (2013). *Etkin dinleme eğitiminin dinlediğini anlama, okuduğunu anlama ve kelime hazinesi üzerine etkisi* (Thesis No. 332676) [Master's thesis, Adnan Menderes University]. Council of Higher Education National Thesis Center.
- Büyükhellaç, S. (2014). *Ortaokul Türkçe ders kitaplarındaki söz varlığının incelenmesi* (Thesis No. 381058) [Master's thesis, Karadeniz Teknik University]. Council of Higher Education National Thesis Center.
- Büyüköztürk, Ş. (2016). Sınavlar üzerine düşünceler. *Kalem Eğitim ve İnsan Bilimleri Dergisi*, 6(2), 345-356. <https://doi.org/10.23863/kalem.2017.64>
- Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2014). *Bilimsel araştırma yöntemleri*. Pegem Akademi.
- Cain, K., & Oakhill, J. (2011). Matthew effects in young readers: Reading comprehension and reading experience aid vocabulary development. *Journal of Learning Disabilities*, 44(5), 431-443. <https://doi.org/10.1177/0022219411410042>
- Can, A. (2014). *SPSS ile bilimsel araştırma sürecinde nicel veri analizi*. Pegem Akademi. <https://doi.org/10.14527/9786053644484>
- Can, A., & Deniz, E. (2016). Ortaöğretim öğrencilerinin sözlüklere yönelik tutumları. *Milli Eğitim Dergisi* 45(210), 319-336.
- Carlisle, J. F. (2000). Awareness of the structure and meaning of morphologically complex words: Impact on reading. *Reading and Writing*, 12, 169-190. <https://doi.org/10.1023/A:1008131926604>
- Carlisle, J. F. (2010). Effects of instruction in morphological awareness on literacy achievement: An integrative review. *Reading Research Quarterly*, 45(4), 464-487. <https://doi.org/10.1598/RRQ.45.4.5>
- Ceran, D., & Deniz, K. (2015). TEOG sınavı sorularının okuma becerisiyle çözülebilme düzeyi. *Ana Dili Eğitimi Dergisi*, 3(2), 92-109. <https://doi.org/10.16916/aded.62200>
- Cesur, O. (2005). *Pansiyonlu ilköğretim okulu öğrencileri üzerinde kelime serveti araştırması (Kastamonu ilinde bir inceleme)* (Thesis No. 188050) [Master's thesis, Abant İzzet Baysal University]. Council of Higher Education National Thesis Center.
- Chen, M. L. (2014). Age differences in the use of language learning strategies. *English Language Teaching*, 7(2), 144-151. <https://doi.org/10.5539/elt.v7n2p144>
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 39(7), 3-7.
- Chi, M. L. A. (1998). Teaching dictionary skills in the classroom. In T. Fontenelle, P. Hilgsmann, A. Michiels, A. Moulin, & S. Theissen (Eds.), *EURALEX '98 actes/proceedings* (pp. 565-577). Université Départements d'Anglais et de Néerlandais.
- Chun, E., Choi, S., & Kim, J. (2012). The effect of extensive reading and paired-associate learning on long-term vocabulary retention: An event-related potential study. *Neuroscience Letters*, 521(2), 125-129. <https://doi.org/10.1016/j.neulet.2012.05.069>
- Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education* (5th ed.). Routledge Falmer.
- Cook, V. (2001). *Second language learning and language teaching*. Oxford University Press Inc.

- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation*, 10(7), 1-9. <https://doi.org/10.7275/jyj1-4868>
- Cred , M., & Kuncel, N. R. (2008). Study habits, skills, and attitudes: The third pillar supporting collegiate academic performance. *Perspectives on Psychological Science*, 3(6), 425-453. <https://doi.org/10.1111/j.1745-6924.2008.00089.x>
- Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research*. Pearson Prentice Hall.
- Cunningham, A. E. (2005). Vocabulary growth through independent reading and reading aloud to children. In E. H. Hiebert & M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp. 45-68). Lawrence Erlbaum Associates.
-  etin, A., &  nsal, S. (2019). Merkezi sınavların  ğretmenler  zerinde sosyal, psikolojik etkisi ve  ğretmenlerin  ğretim programı uygulamalarına yansıması. *Hacettepe  niversitesi Eđitim Fak ltesi Dergisi*, 34(2), 304-323. <https://doi.org/10.16986/HUJE.2018040672>
-  ift i, C., &  ađlar,  . (2014). Ailelerin sosyo-ekonomik  zelliklerinin  đrenci bařarı  zerindeki etkisi: Fakirlik kader midir?. *International Journal of Human Sciences*, 11(2), 155-175. <https://doi.org/10.14687/ijhs.v11i2.2914>
-  ift i, M. (1991). *Bir grup y ksek đrenim  đrencisi  zerinde kelime serveti arařtırması* (Thesis No. 17953) [Master's thesis, Gazi University]. Council of Higher Education National Thesis Center.
- Dafei, D. (2007). An exploration of the relationship between learner autonomy and English proficiency. *The Asian EFL Journal*, 24, 1-23.
- Davis-Kean, P. E. (2005). The influence of parent education and family income on child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology*, 19(2), 294-304. <https://doi.org/10.1037/0893-3200.19.2.294>
- Deniz, E. (2015). Ortaokul  đrencilerinin kitap okuma alışkanlıkları. *Okuma Yazma Eđitimi Arařtırmaları*, 3(2), 46-64.
- Diamond, L., & Gutlohn, L. (2006). *Vocabulary handbook*. Core Literacy Library.
- Dickinson, D. K., & Smith, M. W. (1994). Longterm effects of preschool teachers' book readings on low-income children's vocabulary and story comprehension. *Reading Research Quarterly*, 29(2), 104-122. <https://doi.org/10.2307/747807>
- Din er, M. A., & Kolařın-Uysal, G. (2010). The determinants of student achievement in Turkey. *International Journal of Educational Development*, 30(6), 592-598. <https://doi.org/10.1016/j.ijedudev.2010.05.005>
- Din er, M. A., & Uysal, G. (2009). *T rkiye'de  đrenci bařarı sızlıđında eřitsizliđin belirleyicileri*. Eđitim Reformu Giriřimi.
- Dođan, F. (2016). *T rk e dersi ortaokul  đrenci  alıřma kitaplarındaki etkinliklerin s z varlıđı  zerine bir arařtırma* (Thesis No. 429751) [Master's thesis, Siirt University]. Council of Higher Education National Thesis Center.
- Dollaghan, C. A., Campbell, T. F., Paradise, J. L., Feldman, H. M., Janosky, J. E., Pitcairn, D. N., & Kurs-Lasky, M. (1999). Maternal education and measures of early speech and language. *Journal of Speech, Language, and Hearing Research*, 42(6), 1432-1443. <https://doi.org/10.1044/jslhr.4206.1432>
- Domino, G., & Domino, M. L. (2006). *Psychological testing: An introduction*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511813757>
- Dotterer, A. M., & Wehrspann, E. (2016). Parent involvement and academic outcomes among urban adolescents: Examining the role of school engagement. *Educational Psychology*, 36(4), 812-830. <https://doi.org/10.1080/01443410.2015.1099617>

- Drevno, G. E., Kimball, J. W., Possi, M. K., Heward, W. L., Gardner, R., & Barbetta, P. M. (1994). Effects of active student response during error correction on the acquisition, maintenance, and generalization of science vocabulary by elementary students: A systematic replication. *Journal of Applied Behavior Analysis*, 27(1), 179-180. <https://doi.org/10.1901/jaba.1994.27-179>
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*, 14(1), 4-58. <https://doi.org/10.1177/1529100612453266>
- Eckerth, J., & Tavakoli, P. (2012). The effects of word exposure frequency and elaboration of word processing on incidental L2 vocabulary acquisition through reading. *Language Teaching Research*, 16(2), 227-252. <https://doi.org/10.1177/13621688114313>
- Eğilmez, N. İ. (2010). *İlköğretim Türkçe ders kitaplarındaki söz varlığının ilköğretim dördüncü sınıf öğrencilerinin yazılı anlatımlarına aktarımı* (Thesis No. 271221) [Doctoral dissertation, Uludağ University]. Council of Higher Education National Thesis Center.
- Eğilmez, N. İ. (2024). Türkçe öğretmenlerinin süreç temelli yazmaya yönelik görüş ve deneyimleri. *Ana Dili Eğitimi Dergisi*, 12(2), 437-460. <https://doi.org/10.16916/aded.1443923>
- Elleman, A. M., Lindo, E. J., Morphy, P., & Compton, D. L. (2009). The impact of vocabulary instruction on passage-level comprehension of school-age children: A meta-analysis. *Journal of Research on Educational Effectiveness*, 2(1), 1-44. <https://doi.org/10.1080/19345740802539200>
- Ellis, N. C. (1994). *Implicit and explicit language learning of languages*. Academic Press.
- Elmacioğlu, T. (1998). *Başarıda aile faktörü*. Hayat Yayınları.
- Eriksson, M., Marschik, P. B., Tulviste, T., Almgren, M., Pérez Pereira, M., Wehberg, S., Marjanovič-Umek, L., Gayraud, F., Kovacevic, M., & Gallego, C. (2012). Differences between girls and boys in emerging language skills: Evidence from 10 language communities. *British Journal of Developmental Psychology*, 30(2), 326-343. <https://doi.org/10.1111/j.2044-835X.2011.02042.x>
- Fan, X., & Chen, M. (2001). Parental involvement and children's academic achievement: A meta-analysis. *Educational Psychology Review*, 13(1), 1-22. <https://doi.org/10.1023/A:1009048817385>
- Field, A. P. (2009). *Discovering statistics using SPSS*. Sage Publications.
- Foorman, B. R., Petscher, Y., & Bishop, M. D. (2012). The incremental variance of morphological knowledge to reading comprehension in grades 3-10 beyond prior reading comprehension, spelling, and text reading efficiency. *Learning and Individual Differences*, 22(6), 792-798. <https://doi.org/10.1016/j.lindif.2012.07.009>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education*. McGraw-Hill.
- Gallik, J. D. (1999). Do they read for pleasure? Recreational reading habits of college students. *Journal of Adolescent & Adult Literacy*, 42(6), 480-488.
- Gelbal, S. (2008). Sekizinci sınıf öğrencilerinin sosyoekonomik özelliklerinin Türkçe başarıları üzerinde etkisi. *Eğitim ve Bilim*, 33(150), 1-13.
- Genç, G. (2021). *Türkçe ders kitaplarının kelime öğretimi açısından incelenmesi ve öğretmen görüşlerine göre değerlendirilmesi* (Thesis No. 707717) [Master's thesis, Van Yüzüncü Yıl University]. Council of Higher Education National Thesis Center.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*. Allyn & Bacon.
- Gleason, J. B., & Ratner, N. B. (2016). *The development of language* (9th ed.). Pearson.
- Good, J. E. (2011). *The effects of morphological awareness training on reading, spelling, and vocabulary skills* (Theses No. 3474107) [Doctoral dissertation, University of Central Arkansas]. ProQuest Dissertations and Theses Global.

- Goodwin, L. D. (1999). The role of factor analysis in the estimation of construct validity. *Measurement in Physical Education and Exercise Science*, 3(2), 85-100. https://doi.org/10.1207/s15327841mpee0302_2
- Göçen, G., & Okur, A. (2015). Ortaokula yönelik söz varlığı araştırmalarının incelenmesi: Tezler. *Ana Dili Eğitimi Dergisi*, 3(1), 64-79. <https://doi.org/10.16916/aded.66746>
- Göçer, A. (2001). Türk dili ile ilgili sözlüklere genel bir bakış ve günümüz ilköğretim sözlükleri. *Türk Dili*, (598), 388-403.
- Göçer, A. (2009). Türkçe eğitiminde öğrencilerin söz varlığını geliştirme etkinlikleri ve sözlük kullanımı. *Turkish Studies*, 4(4), 1025-1055. <https://doi.org/10.7827/TurkishStudies.1318>
- Göğüş, B. (1978). *Orta dereceli okullarımızda Türkçe ve yazın eğitimi*. Gül Yayınları.
- Gönen, M., Öncü, E., & Işıtan, S. (2004). İlköğretim 5. 6. ve 7. sınıf öğrencilerinin okuma alışkanlıklarının incelenmesi. *Milli Eğitim Dergisi*, 32(164), 7-34.
- Graves, M. F. (2006). *The vocabulary book: Learning and instruction*. Teachers College Press.
- Graves, M. F., Schneider, S., & Ringstaff, C. (2017). Teaching students to use word-learning strategies: The effects of explicit instruction on vocabulary growth and reading comprehension. *The Reading Teacher*, 71(5), 535-543. <https://doi.org/10.1002/trtr.1644>
- Gu, P. Y. (2018). Validation of an online questionnaire of vocabulary learning strategies for ESL learners. *Studies in Second Language Learning and Teaching*, 8(2), 325-350. <https://doi.org/10.14746/ssllt.2018.8.2.7>
- Gu, P. Y., & Johnson, R. K. (1996). Vocabulary learning strategies and language learning outcomes. *Language Learning*, 46(4), 643-679. <https://doi.org/10.1111/j.1467-1770.1996.tb01355.x>
- Gülsoy, T. (2013). *6. sınıf öğrencilerinin kelime hazinesinin geliştirilmesinde eğitsel oyunların etkisi* (Thesis No. 345620) [Master's thesis, Niğde University]. Council of Higher Education National Thesis Center.
- Gümüş, A. (2018). *Türk eğitim sisteminin sınavlarla imtihanı* [Policy brief]. İLKE İlim Kültür Eğitim Derneği. https://ilke.org.tr/images/yayin/pdf/turk_egitim_sisteminin_sinavlarla_imtihani.pdf
- Güzel, G. (2015). *Ortaokul Türkçe ders kitaplarında sözcük öğretiminin yaratıcı dil öğretimi açısından* (Thesis No. 463402) [Master's thesis, Başkent University]. Council of Higher Education National Thesis Center.
- Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Paul H Brookes Publishing.
- Hedge, T. (2000). *Teaching and learning in the language classroom*. Oxford University Press.
- Hoff-Ginsberg, E. (1998). The relation of birth order and socioeconomic status to children's language experience and language development. *Applied Psycholinguistics*, 19(4), 603-629. <https://doi.org/10.1017/S0142716400010389>
- Hoff, E. (2003). The specificity of environmental influence: Socioeconomic status affects early vocabulary development via maternal speech. *Child Development*, 74(5), 1368-1378. <https://doi.org/10.1111/1467-8624.00612>
- Hoff, E. (2006). How social contexts support and shape language development. *Developmental Review*, 26(1), 55-88. <https://doi.org/10.1016/j.dr.2005.11.002>
- Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling: Guidelines for determining model fit. *The Electronic Journal of Business Research Methods*, 6(1), 53-60. <https://doi.org/10.21427/D7CF7R>
- Hulstijn, J. (2003). Incidental and intentional learning. In C. J. Doughty & M. H. Long (Eds.), *The handbook of second language acquisition* (pp. 349-381). Blackwell. <https://doi.org/10.1002/9780470756492.ch12>
- Hyde, J. S., & Linn, M. C. (1988). Gender differences in verbal ability: A meta-analysis. *Psychological Bulletin*, 104(1), 53-69. <https://doi.org/10.1037/0033-2909.104.1.53>

- Iheakanwa, J. U., Obro, S., & Akpochofo, W. P. (2021). Reading ability, study habits and students' academic performance in social studies. *Library Philosophy and Practice*, 1-21.
- Israel, G. D. (1992). *Sampling the evidence of extension program impact*. Program Evaluation and Organizational Development, IFAS, University of Florida.
- Iwaniec, J. (2018). The effects of parental education level and school location on language learning motivation. *The Language Learning Journal*, 48(4), 427-441. <https://doi.org/10.1080/09571736.2017.1422137>
- İpek, C. (2011). Velilerin okul tutumu ve eğitimine katılım düzeyleri ile aileye bağlı bazı faktörlerin ilköğretim öğrencilerinin seviye belirleme sınavları üzerindeki etkisi. *Pegem Eğitim ve Öğretim Dergisi*, 1(2), 69-79.
- Kamil, M. L., & Hiebert, E. H. (2005). Teaching and learning vocabulary: Perspectives and persistent issues. In E. H. Hiebert & M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp. 1-23). Erlbaum. <https://doi.org/10.4324/9781410612922>
- Karadağ, Ö. (2005). *İlköğretim I. kademe öğrencilerinin kelime hazinesi üzerine bir araştırma* (Thesis No. 160509) [Doctoral dissertation, Gazi University]. Council of Higher Education National Thesis Center.
- Karadağ, Ö. (2011). İlköğretim sözlüklerinin hazırlanmasında temel ölçütler. *Türklük Bilimi Araştırmaları*, (30), 193-207.
- Karadağ, Ö. (2022). *Kelime öğretimi* (4th ed.). Pegem Akademi.
- Karasar, N. (2013). *Bilimsel araştırma yöntemi*. Nobel Akademik Yayıncılık.
- Karatay, H. (2007). Kelime öğretimi. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi*, 27(1), 141-153.
- Karpicke, J. D., & Blunt, J. R. (2011). Retrieval practice produces more learning than elaborative studying with concept mapping. *Science*, 331(6018), 772-775. <https://doi.org/10.1126/science.1199327>
- Katz, L. A. (2004). *An investigation of the relationship of morphological awareness to reading comprehension in fourth and sixth graders* (Thesis No. 3138192) [Doctoral dissertation, University of Michigan]. University of Michigan Library.
- Kaushanskaya, M., Gross, M., & Buac, M. (2013). Gender differences in child word learning. *Learning and Individual Differences*, 27, 82-89. <https://doi.org/10.1016/j.lindif.2013.07.002>
- Kaya, E. (2021). İlköğretim ikinci kademe Türkçe ders kitaplarında söz varlığı edinimi üzerine. *Journal of Social, Humanities and Administrative Sciences*, 7(37), 341-352. <https://doi.org/10.31589/JOSHAS.468>
- Kaya, J. (2023). Re-examining the importance of vocabulary learning strategies for first language English speakers. *English in Education*, 57(2), 120-134. <https://doi.org/10.1080/04250494.2023.2190350>
- Keskin, G., & Sezgin B. (2009). Bir grup ergende akademik başarı durumuna etki eden etmenlerin belirlenmesi. *Fırat Sağlık Hizmetleri Dergisi*, 4(10), 4-18.
- Kızgın, A., & Baştuğ, M. (2020). Okuma motivasyonu ve okuduğunu anlama becerisinin akademik başarıyı yordama düzeyi. *Dil Eğitimi ve Araştırmaları Dergisi*, 6(2), 601-612. <https://doi.org/10.31464/jlere.767022>
- Kocaman, A. (2008). *Ailenin sosyokültürel ve sosyoekonomik durumunun öğrencinin okul başarısına etkisi İnönü EML örneği* (Thesis No. 308704) [Master's thesis, Beykent University]. Council of Higher Education National Thesis Center.
- Kocaman, O., & Kızılkaya Cumaoglu, G. (2014). Yabancı dilde kelime öğrenme stratejileri ölçeğinin geliştirilmesi. *Eğitim ve Bilim*, 39(176), 293-303. <https://doi.org/10.15390/EB.2014.3611>
- Kocaman, O., Yıldız, M., & Kamaz, B. (2018). Use of vocabulary learning strategies in Turkish as a foreign language context. *International Journal of Psychology and Educational Studies*, 5(2), 54-63. <https://doi.org/10.17220/ijpes.2018.02.7>

- Koçkaya, Y. G. (2014). *İlköğretim ikinci kademe öğrencilerine klasik yöntemlerle verilmeye çalışılan kelime öğretimi* (Thesis No. 381506) [Master's thesis, Gazi University]. Council of Higher Education National Thesis Center.
- Korat, O. (2010). Reading electronic books as a support for vocabulary, story comprehension and word reading in kindergarten and first grade. *Computers & Education*, 55(1), 24-31. <https://doi.org/10.1016/j.compedu.2009.11.014>
- Krashen, S. D. (1981). *Second language acquisition and second language learning*. Pergamon Press.
- Krejcie, R. V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- Kurudayıoğlu, M. (2005). *İlköğretim II. kademe öğrencilerinin kelime hazinesi üzerine bir araştırma* (Thesis No. 159613) [Doctoral dissertation, Gazi University]. Council of Higher Education National Thesis Center.
- Labontee, R. (2019). Questionnaire instrumentation for strategic vocabulary learning in the Swedish as a second language learning context. *Studies in Second Language Learning and Teaching*, 9(2), 313-349. <https://doi.org/10.14746/ssllt.2019.9.2.4>
- Lange, B. P., Euler, H. A., & Zaretsky, E. (2016). Sex differences in language competence of 3- to 6-year-old children. *Applied Psycholinguistics*, 37(6), 1417-1438. <https://doi.org/10.1017/S0142716415000624>
- Larsen, J. A., & Nippold, M. A. (2007). Morphological analysis in school-age children: Dynamic assessment of a word learning strategy. *Language, Speech, and Hearing Services in Schools*, 38(3), 201-212. [https://doi.org/10.1044/0161-1461\(2007/021\)](https://doi.org/10.1044/0161-1461(2007/021))
- Lawson, M. J., & Hogben, D. (1996). The vocabulary-learning strategies of foreign-language students. *Language Learning Journal*, 46(1), 101-135. <https://doi.org/10.1111/j.1467-1770.1996.tb00642.x>
- Lee, S. (2007). Vocabulary learning strategies of Korean university students: Strategy use, vocabulary size, and gender. *English Teaching*, 62(1), 149-169. <https://doi.org/10.15858/engtea.62.1.200703.149>
- Lightbown, P. M., & Spada, N. (2006). *How languages are learned*. OUP.
- Linda, A., & Shah, P. (2020) Vocabulary acquisition style in the ESL classroom: A survey on the use of vocabulary learning strategies by the primary 3 learners. *Creative Education*, 11, 1973-1987. <https://doi.org/10.4236/ce.2020.1110144>
- Loudermill, C. S. (2014). *An investigation of the relationship between reading comprehension and morphological awareness skills* (Publication No. 3621689) [Doctoral dissertation, University of Central Arkansas]. ProQuest Dissertations & Theses Global.
- Maag, L. K. (2007). *Measuring morphological awareness in adult readers: Implications for vocabulary development* (Publication No. 3271168) [Doctoral dissertation, University of Florida]. ProQuest Dissertations & Theses Global.
- Maden, A. (2021). Söz varlığını zenginleştirme açısından Türkçe dersi öğretim programı. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi*, 10(2), 756-777. <https://doi.org/10.7884/teke.4874>
- Maden, A., & Durukan, E. (2019). Ortaokul öğrencilerine yönelik elektronik görsel sözlük geliştirme: Tasarım tabanlı bir araştırma. *Turkish Studies*, 14(4), 1565-1600. <https://doi.org/10.29228/TurkishStudies.23027>
- Marjanovic-Umek, L., & Fekonja-Peklaj, U. (2017). Gender differences in children's language: A meta-analysis of Slovenian studies. *Center for Educational Policy Studies Journal*, 7(2), 97-111. <https://doi.org/10.26529/cepsj.171>
- Marzano, R. J. (2004). *Building background knowledge for academic achievement: Research on what works in schools*. Association for Supervision and Curriculum Development.
- McCarthy, M., O'Keeffe, A., & Walsh, S. (2010). *Vocabulary matrix: Understanding, learning, teaching*. Heinle.

- McKean, C., Law, J., Mensah, F. K., Cini, E., Eadie, P., Frazer, K., & Reilly, S. (2015). Predicting meaningful differences in school-entry language skills from child and family factors measured at 12 months of age. *International Journal of Early Childhood*, 47(3), 295-316. <https://doi.org/10.1007/s13158-015-0149-0>
- Melanlioğlu, D. (2013). Ortaokul öğrencilerinin sözlük kullanma alışkanlıkları: Nitel bir araştırma. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi*, 2(2), 266-284.
- Memiş, M. (2018a). Kelime hazinesi ve yabancı dilde kelime öğretimi üzerine. *Turkish Studies*, 13(19), 1273-1289. <https://doi.org/10.7827/TurkishStudies.13857>
- Memiş, M. (2018b). The relationship between vocabulary learning strategies and vocabulary of learners of Turkish as foreign or second language. *Educational Policy Analysis and Strategic Research*, 13(4), 164-185. <https://doi.org/10.29329/epasr.2018.178.10>
- Memiş, M. (2018c). Yapım eki öğretiminin Türkçeyi yabancı dil olarak öğrenenlerin kelime hazinesi üzerindeki etkisi. *Çukurova Üniversitesi Eğitim Fakültesi Dergisi*, 47(2), 439-491. <https://doi.org/10.14812/cufej.399191>
- Memiş, M. (2018d). Yapım eki öğretiminin Türkçeyi yabancı dil olarak öğrenenlerin kelime hazinesi, kelime türetme becerisi ve okuduğunu anlama becerisi üzerindeki etkisi (Thesis No. 524926) [Doctoral dissertation, Gazi University]. Council of Higher Education National Thesis Center.
- Memiş, M. (2019a). A research on reading comprehension and morphological awareness levels of middle school students and the relationship between these concepts. *Journal of Language and Linguistics Studies*, 15(2), 649-677. <https://doi.org/10.17263/jlls.586807>
- Memiş, M. (2019b). Kelime öğretim stratejileri ölçeği: Geliştirme, geçerlik ve güvenirlik çalışması. *Turkish Studies*, 14(4), 2579-2593. <https://doi.org/10.29228/TurkishStudies.29172>
- Memiş, M. (2019c). Morfolojik farkındalık ve morfolojik farkındalık eğitimi. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi*, 8(3), 1355-1368. <https://doi.org/10.7884/teke.4534>
- Memiş, M. (2023). Ana dilinde kelime öğrenme stratejileri ölçeği. *Turkish Studies - Language and Literature*, 18(3), 1907-1925. <https://doi.org/10.7827/TurkishStudies.72226>
- Memiş, M. (2024). Ana dili eğitiminde kullanılan kelime öğretim stratejilerinin belirlenmesi. *Eğitim ve Bilim*, 49(218), 159-184. <https://doi.org/10.15390/EB.2024.12698>
- Merga, M. K. (2016). What would make them read more? Insights from Western Australian adolescents. *Asia Pacific Journal of Education*, 36(3), 1-16. <https://doi.org/10.1080/02188791.2014.961898>
- Mert, C. N. (2015). 7. sınıf Türkçe ders kitaplarında söz varlığını zenginleştirme etkinlikleri üzerine bir inceleme. In M. V. Coşkun, N. Açık Önkaş, N. İpek Eğilmez, H. Fırat, Ö. Fırat, Ö. Fidan, D. Çetin, S. Turhan Tuna, M. Sargın, P. G. Özkaya, Z. E. Erdemir, G. Özşavlı, & H. Çelik (Eds.), *Türkçenin eğitimi-öğretimine yönelik çalışmalar* (pp. 285-293). Pegem Akademi.
- Mete, G. (2012). İlköğretim 8. sınıf öğrencilerinin okuma alışkanlığı üzerine bir araştırma (Malatya ili örneği). *Dil ve Edebiyat Eğitimi Dergisi*, 1(1), 43-66.
- Metin, M. (2013). Öğrencilerin seviye belirleme sınavındaki başarısına etki eden unsurların farklı değişkenler açısından incelenmesi. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 14(1), 67-83.
- Ministry of National Education. (2007a). *OBBS 2005-İlköğretim öğrencilerinin başarılarının belirlenmesi: Türkçe raporu*. MEB Yayınları.
- Millî Eğitim Bakanlığı (2007b). *Öğrencilerin okuma düzeyleri*. MEB Yayınları. https://www.meb.gov.tr/earged/earged/okuma_duzey.pdf
- Ministry of National Education. (2019). *Türkçe dersi öğretim programı (İlkokul ve ortaokul 1, 2, 3, 4, 5, 6, 7 ve 8. sınıflar)*. MEB Yayınları. <http://mufredat.meb.gov.tr/ProgramDetay.aspx?PID=663>
- Ministry of National Education. (2022). *Millî eğitim istatistikleri, örgün eğitim*. MEB Yayınları. https://sgb.meb.gov.tr/www/icerik_goruntule.php?KNO=460

- Ministry of National Education. (2024). *Ortaokul Türkçe dersi öğretim programı (5, 6, 7 ve 8. sınıflar)*. MEB Yayınları. <https://mufredat.meb.gov.tr/>
- Muse, A. E. (2005). *The nature of morphological knowledge* [Doctoral dissertation, Florida State University]. FSU Digital Repository University Libraries.
- Mutlu, H. H., Sügümlü, Ü., & Çinpolat, E. (2019). Türkçe dersi öğretim programı (2018) temelinde hazırlanan ortaokul Türkçe ders kitaplarının öğretmen görüşleriyle değerlendirilmesi. *Milli Eğitim*, 48(224), 101-121.
- Nagy, W. E., Herman, P. A., & Anderson, R. C. (1985). Learning words from context. *Reading Research Quarterly*, 20(2), 233-253. <https://doi.org/10.2307/747758>
- Nagy, W. E., & Scott, J. A. (2000). Vocabulary processes. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (pp. 269-284). Lawrence Erlbaum Associates.
- National Institute of Child Health and Human Development (U.S.). (2000). *Report of the National Reading Panel - teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. National Institute of Child Health and Human Development, National Institutes of Health.
- Nation, I. S. P. (1990). *Teaching and learning vocabulary*. Heinle & Heinle.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge University. <https://doi.org/10.1017/CBO9781139524759>
- Nation, I. S. P. (2004). Vocabulary learning and intensive reading. *EA Journal*, 21(2), 20-29.
- Nation, I. S. P. (2008). *Teaching vocabulary: Strategies and techniques*. Heinle.
- Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches*. Pearson Education Limited.
- Numanoğlu, Ö. (2021). *Ortaokul Türkçe ders kitaplarındaki sözcük öğretimi etkinliklerinin çeşitli değişkenler açısından incelenmesi* (Thesis No. 694910) [Master's thesis, Mersin University]. Council of Higher Education National Thesis Center.
- Okur, A. (2007). *Serbest okuma etkinliğinin sözcük hazinesi ve kavram gelişimine etkisi (MEB tarafından ilköğretim II. kademe öğrencilerine önerilen 100 temel eser örneğinde)* (Thesis No. 210314) [Doctoral dissertation, Marmara University]. Council of Higher Education National Thesis Center.
- Okur, A. (2011). İlköğretim Türkçe sözlükleri üzerine. *Turkish Studies*, 6(1), 1567-1583. <https://doi.org/10.7827/TurkishStudies.1982>
- Onan, B. (2009). Eklemeli dil yapısının Türkçe öğretiminde oluşturduğu bilişsel (kognitif) zeminler. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 6(11), 237-264.
- Onan, B. (2014). *Anlama sürecinde Türkçenin yapısal işlevleri*. Nobel Akademik Yayıncılık.
- Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Heinle & Heinle.
- Oxford, R. L. (2016). *Teaching and researching language learning strategies: Self-regulation in context*. Routledge. <https://doi.org/10.4324/9781315719146>
- Öksüzler, O., & Sürekçi, D. (2010). İlköğretimde başarıyı etkileyen faktörler: Bir sıralı lojit yaklaşımı. *Finans Politik & Ekonomik Yorumlar Dergisi*, 47(543), 79-89.
- Ömeroğlu, A. F., & Hakkoymaz, S. (2022). Ortaokul Türkçe ders kitaplarındaki etkinliklerin söz varlığı öğretiminde kullanılan yöntem ve teknikler açısından değerlendirilmesi. *Ana Dili Eğitimi Dergisi*, 10(2), 347-362. <https://doi.org/10.16916/aded.1053964>
- Özbay, M., & Melanlıoğlu D. (2008). Türkçe eğitiminde kelime hazinesinin önemi. *Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi*, 5(1), 30-45.
- Özçelik, E. G. (2011). *Okuduğunu anlama becerisinin başarıya etkisi* (Thesis No. 308507) [Master's thesis, Hacettepe University]. Council of Higher Education National Thesis Center.
- Özer Özkan, Y., & Turan, S. (2021). Düşündürdükleri ve ötesiyle yüksek riskli sınav gerçeği. *Alanyazın Eğitim Bilimleri Eleştirel İnceleme Dergisi*, 2(1), 59-63. <https://doi.org/10.22596/cresjournal.0201.59.63>

- Pace, A., Luo, R., Hirsh-Pasek, K., & Golinkoff, R. M. (2017). Identifying pathways between socioeconomic status and language development. *Annual Review of Linguistics*, 3, 285-308. <https://doi.org/10.1146/annurev-linguistics-011516-034226>
- Pala, N. M. (2008). *PISA 2003 sonuçlarına göre öğrenci ve sınıf özelliklerinin matematik okuryazarlığına ve problem çözmeye etkisi* [Master's thesis, Balıkesir University]. Council of Higher Education National Thesis Center.
- Pancsofar, N., Vernon-Feagans, L., & The Family Life Project Investigators. (2010). Fathers' early contributions to children's language development in families from low-income rural communities. *Early Childhood Research Quarterly*, 25(4), 450-463. <https://doi.org/10.1016/j.ecresq.2010.02.001>
- Pellicer-Sánchez, A., & Schmitt, N. (2010). Incidental vocabulary acquisition from an authentic novel: Do things fall apart?. *Reading in a Foreign Language*, 22(1), 31-55.
- Perfetti, C. A., & Stafura, J. (2014). Word knowledge in a theory of reading comprehension. *Scientific Studies of Reading*, 18(1), 22-37. <https://doi.org/10.1080/10888438.2013.827687>
- Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82(1), 33-40. <https://doi.org/10.1037/0022-0663.82.1.33>
- Porumbu, D., & Necşoi, D. V. (2013). Relationship between parental involvement/attitude and children's school achievements. *Procedia - Social and Behavioral Sciences*, 76, 706-710. <https://doi.org/10.1016/j.sbspro.2013.04.191>
- Pressley, M., Disney, L., & Anderson, K. (2007). Landmark vocabulary instructional research and the vocabulary instructional research that makes sense now. In R. K. Wagner, A. E. Muse, & K. R. Tannenbaum (Eds.), *Vocabulary acquisition: Implications for reading comprehension* (pp. 205-232). The Guilford.
- Radović, B., & Vuković, M. (2024). Reading speed and reading comprehension in adolescents. *Multidisciplinarni Pristupi u Edukaciji i Rehabilitaciji*, 6(8), 51-60. <https://doi.org/10.59519/mper6205>
- Rahayuningsih, R. (2020). The effect of reading habit and vocabulary mastery toward students' reading comprehension. *Wanastra: Jurnal Bahasa Dan Sastra*, 12(2), 266-271. <https://doi.org/10.31294/w.v12i2.8458>
- Reilly, C. (2019). *Language and development: Issues in mother-tongue based multilingual education*. University of Glasgow. https://www.researchgate.net/publication/343768795_Language_and_development_Issues_in_mother-tongue_based_multilingual_education
- Rinaldi, P., Pasqualetti, P., Volterra, V., & Caselli, M. C. (2023). Gender differences in early stages of language development: Some findings. *Journal of Neuroscience Research*, 101(5), 643-653. <https://doi.org/10.1002/jnr.24914>
- Santi, E., Kholipa, R., Putri, M. G., & Mujiono, M. (2021). Reading interest strength and vocabulary acquisition of EFL learners: A meta-analysis. *Journal of Language and Linguistic Studies*, 17(3), 1225-1242. <https://doi.org/10.52462/jlls.87>
- Saracho, O. N. (2017). Literacy and language: New developments in research, theory, and practice. *Early Child Development and Care*, 187(3-4), 299-304. <https://doi.org/10.1080/03004430.2017.1282235>
- Sarı, E. (2020). *Söz varlığı ve sözcük öğretimi üzerine yapılmış lisansüstü tezlerin değerlendirilmesi (ortaokul düzeyi)* (Thesis No. 643885) [Master's thesis, Muğla Sıtkı Koçman University]. Council of Higher Education National Thesis Center.
- Sarıgül, E. (1999). The importance of using dictionary in language learning and teaching. *Selçuk Üniversitesi Edebiyat Fakültesi Dergisi*, 13(1), 153-157.
- Schmitt, N. (1997). Vocabulary learning strategies. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy* (pp. 199-227). Cambridge University Press.
- Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge University Press.

- Schmitt, N. (2008). Review article: Instructed second language vocabulary learning. *Language Teaching Research*, 12(3), 329-363. <https://doi.org/10.1177/1362168808089921>
- Schmitt, N. (2014). Size and depth of vocabulary knowledge: What the research shows. *Language Learning*, 64(4), 913-951. <https://doi.org/10.1111/lang.12077>
- S  n  chal, M. (1997). The differential effect of storybook reading on preschoolers' acquisition of expressive and receptive vocabulary. *Journal of Child Language*, 24(1), 123-138. <https://doi.org/10.1017/S0305000996003005>
- S  n  chal, M., & LeFevre, J. A. (2002). Parental involvement in the development of children's reading skill: A five-year longitudinal study. *Child Development*, 73(2), 445-460. <https://doi.org/10.1111/1467-8624.00417>
- Shatz, M., & Gelman, R. (1973). The development of communication skills: Modifications in the speech of young children as a function of listener. *Monographs of the Society for Research in Child Development*, 38(5), 1-37. <https://doi.org/10.2307/1165783>
- Silva, A. A. M., & Martins-Reis, V. O. (2017). The influence of morphological awareness on reading and writing: A systematic review. *CoDAS*, 29(1), 1-8. <https://doi.org/10.1590/2317-1782/20172016032>
- Snow, C. E., Griffin, P., & Burns, M. S. (2005). *Knowledge to support the teaching of reading: Preparing teachers for a changing world*. Jossey-Bass/Wiley.
- Song, L., Spier, E. T., & Tamis-Lemonda, C. S. (2014). Reciprocal influences between maternal language input and children's language development in low-income families. *Journal of Applied Developmental Psychology*, 41(2), 305-326. <https://doi.org/10.1017/S0305000912000700>
- Stahl, S. A., & Nagy, W. E. (2006). Teaching word learning strategies: Word parts. In S. A. Stahl & W. E. Nagy (Eds.), *Teaching word meanings* (pp. 157-172). Routledge. <https://doi.org/10.4324/9781410615381>
- Stanovich, K. E., & Cunningham, A. E. (1992). Studying the consequences of literacy within a literate society: The cognitive correlates of print exposure. *Memory & Cognition*, 20(1), 51-68. <https://doi.org/10.3758/BF03208254>
- Stoewer, K., & Musk, N. (2019) Impromptu vocabulary work in English mother tongue instruction. *Classroom Discourse*, 10(2), 123-150. <https://doi.org/10.1080/19463014.2018.1516152>
- Sullivan, A., & Brown, M. (2015). Reading for pleasure and progress in vocabulary and mathematics. *British Educational Research Journal*, 41(6), 971-991. <https://doi.org/10.1002/berj.3180>
- Suna, H. E.,   zer, M.,   sensoy, S., G  r, B. S., Gelbal, S., & A  kar, P. (2021). T  rkiye'de akademik ba  arının belirleyicileri. *Journal of Economy Culture and Society*, (64), 143-162. <https://doi.org/10.26650/JECS2021-934211>
- Swanborn, M. S. L., & De Glopper, K. (1999). Incidental word learning while reading: A meta-analysis. *Review of Educational Research*, 69(3), 261-285. <https://doi.org/10.3102/00346543069003261>
-   ener, S. (2015). Vocabulary learning strategy preferences and vocabulary size of pre-service English teachers. *The International Journal of Educational Researchers*, 6(3), 15-33.
-   im  sek,   ., & Demirel,   . F. (2020). T  rk  e ders kitaplarındaki s  z varlı  ı kazandırma/kelime   ğretimi etkinliklerinin kullanılan y  ntemler a  ısından incelenmesi. *G  m    hane   niversitesi Sosyal Bilimler Enstit  s   Elektronik Dergisi*, 11, 317-330.
-   irin, M. R., & Soylu,   . (2003). *Okuyan T  rkiye   n bilgi raporu*.   ocuk Vakfı Yayınları.
-   irin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417-453. <https://doi.org/10.3102/00346543075003417>
- Taga, T. (2018). *Yazma etkinlikleriyle b  t  nle  tirilmi   kelime   ğretiminin kelime   ğrenme, hatırlama ve farkındalı  ına etkisi* (Thesis No. 532799) [Doctoral dissertation, Gazi University]. Council of Higher Education National Thesis Center.

- Taga, T. (2022). Ortaokul öğrencilerinin sözlük kullanma alışkanlıkları üzerine bir araştırma. *Türkiye Sosyal Araştırmalar Dergisi*, 26(2), 521-532.
- Tanyer, S., & Öztürk, Y. (2014). Pre-service English teachers' vocabulary learning strategy use and vocabulary size: A cross-sectional evaluation. *Journal of Language Teaching and Research*, 5(1), 37-45. <https://doi.org/10.4304/jltr.5.1.37-45>
- Tatar, E., & Soylu, Y. (2006). Okuma-anlamadaki başarının matematik başarısına etkisinin belirlenmesi üzerine bir çalışma. *Kastamonu Eğitim Dergisi*, 14(2), 503-508.
- Tok, M., & Ünlü, S. (2014). Yazma becerisi sorunlarının ilkökul, ortaokul ve lise öğretmenlerinin görüşleri doğrultusunda karşılaştırılmalı olarak değerlendirilmesi. *Elektronik Sosyal Bilimler Dergisi*, 13(50), 73-95. <https://doi.org/10.17755/esosder.04506>
- Tok, M., & Yığın, M. (2014). Türkçenin ikinci dil olarak öğretiminde öğrencilerin kullandıkları kelime öğrenme stratejileri. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, (41), 265-276.
- Turkish Education Association. (2010). *Ortaöğretime ve yükseköğretime geçiş sistemi (Özet Rapor)*. https://ted.org.tr/wp-content/uploads/2024/03/ortaogretimeveyuksekogretimegecissistemi_ozet_rapor.pdf
- Türkben, T. (2018). Söz varlığını belirlemeye ve geliştirmeye yönelik araştırmaların değerlendirilmesi. *Türkiye Sosyal Araştırmalar Dergisi*, 22(3), 993-1032.
- Türkoğlu, Ö. (2008). *Ailenin eğitim ve gelir düzeyinin öğrencinin derse olan tutumuna ve başarısına etkisi* (Thesis No. 231304) [Master's thesis, Beykent University]. Council of Higher Education National Thesis Center.
- Türkyılmaz, M. (2013). *Ortaokul 5. sınıf öğrencilerinin yazılı anlatımdaki aktif kelime hazinesinin belirlenmesi: Kırşehir/Akçakent örneği* (Thesis No. 349035) [Master's thesis, Gazi University]. Council of Higher Education National Thesis Center.
- Uluçay, M. (2011). *İlköğretim 6, 7 ve 8. sınıf Türkçe ders kitaplarındaki söz varlığının ortaöğretim Türk Dili ve Edebiyatı ders kitaplarındaki metinlere altyapı oluşturmada yeterliliği* (Thesis No. 294122) [Master's thesis, Erzincan University]. Council of Higher Education National Thesis Center.
- Uluçay, M. (2016). *Etkinlik temelli kelime öğretiminin ortaokul öğrencilerinin söz varlığını geliştirme sürecine etkisi* (Thesis No. 429621) [Doctoral dissertation, Atatürk University]. Council of Higher Education National Thesis Center.
- Ülper, H. (2023). *Sözcük ve öğretimi*. Pegem Akademi.
- Van Den Broek, G. S. E., Wesseling, E., Huijssen, L., Lettink, M., & Van Gog, T. (2022). Vocabulary learning during reading: Benefits of contextual inferences versus retrieval opportunities. *Cognitive Science*, 46(4), 1-28. <https://doi.org/10.1111/cogs.13135>
- Vural, B. (2004). *Okul başarısında ailenin rolü ve önemi*. Bilgi Yayınevi.
- Waldvogel, D. A. (2013). The relationships between vocabulary learning strategies and vocabulary size among adult Spanish foreign language learners. *Journal of Language Teaching and Research*, 4(2), 209-219. <https://doi.org/10.4304/jltr.4.2.209-219>
- Wasik, B. A., & Hindman, A. H. (2011). Improving vocabulary and pre-literacy skills of at-risk preschoolers through teacher professional development. *Journal of Educational Psychology*, 103(2), 455-469. <https://doi.org/10.1037/a0023067>
- Weil, L. G., Fleming, S. M., Dumontheil, I., Kilford, E. J., Weil, R. S., Rees, G., & Blakemore, S. J. (2013). The development of metacognitive ability in adolescence. *Consciousness and Cognition*, 22(1), 264-271. <https://doi.org/10.1016/j.concog.2013.01.004>
- Wright, T. S., & Cervetti, G. N. (2017). A systematic review of the research on vocabulary instruction that impacts text comprehension. *Reading Research Quarterly*, 52(3), 203-226. <https://doi.org/10.1002/rrq.163>

- Wong, L. L. C., & Nunan, D. (2011). The learning styles and strategies of effective language learners. *System*, 39(2), 144-163. <https://doi.org/10.1016/j.system.2011.05.004>
- Yazıcı, K. (2006). Sosyal bilgiler ve okuma becerileri. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi*, 26(1), 273-283.
- Yıldırım, İ. (2006). Akademik başarının yordayıcısı olarak gündelik sıkıntılar ve sosyal destek. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 30, 258-267.
- Yıldız, M. (2013). Okuma motivasyonu, akıcı okuma ve okuduğunu anlamanın beşinci sınıf öğrencilerinin akademik başarılarındaki rolü. *Turkish Studies*, 8(4), 1461-1478. <https://doi.org/10.7827/TurkishStudies.4780>
- Yılmaz, B. (2000). Viyana İlkokullarında okuyan Türk öğrencilerin okuma ve kütüphane kullanma alışkanlıkları üzerine bir araştırma. *Bilgi Dünyası*, 1(2), 280-306. <https://doi.org/10.15612/BD.2000.422>
- Yılmaz, B. (2012). Okuma alışkanlığının okul başarısına etkisi: Ankara Keçiören Atapark İlköğretim Okulu öğrencileri üzerine bir araştırma. In O. Külcü, T. Çakmak, & N. Özel (Eds.), *Prof. Dr. K. Gülbün Baydur'a armağan* (pp. 210-218). Özyurt Matbaacılık.
- Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice*, 41(2), 64-70. https://doi.org/10.1207/s15430421tip4102_2



Self-mention in L1 and L2 Turkish research articles: realizations, functions and distributions

Ruhan Güçlü¹

Abstract

It is important to investigate how authors of first language (L1) and second language (L2) shape self-representation in academic texts and to assess the findings from both linguistic and cultural perspectives, thus shedding light on academic writing pedagogy, which has received limited attention. Comparing of L1 and L2 academic texts reveals how authors build their authorial identities, contributes to a better understanding of cross-linguistic academic writing conventions, and provides guidance for pedagogical practices for both native and non-native writers. This study aims to investigate the use of self-mentions in L1 and L2 Turkish research articles (TRAs) through three dimensions of analysis: realizations, rhetorical functions, and the distribution of explicit and implicit authorial references. To this end, a dataset of 26 TRAs was analyzed, comprising 13 written by native Turkish authors (TA) and 13 by non-native authors (NTA) from diverse cultural backgrounds. The corpus was compiled through criterion-based sampling of multi-authored research articles published in the journal *Education and Science* between 2015 and 2022. A mixed-methods design, combining both qualitative and quantitative approaches, was employed to obtain more comprehensive findings. Firstly, the grammatical forms of implicit and explicit authorial references were analyzed according to Hyland's (2005) Interpersonal Model of Metadiscourse and a search list compiled by Güçlü (2024) for Turkish self-mentions. Secondly, these references were functionally analyzed and classified based on Hyland's (2002) framework of discourse functions of self-mentions, as well as a search list developed by Solsun and Akbaş (2022) from previous studies on the rhetorical functions of self-mentions in Turkish. Thirdly, explicit and implicit authorial references detected in the TA and NTA corpora were compared in terms of grammatical forms and rhetorical functions. Both corpus-based and corpus-driven approaches were employed to identify previously unrecognized grammatical forms and rhetorical functions of authorial references. The frequency, usage patterns, and rhetorical functions of explicit and implicit self-mentions were

Keywords

Turkish research articles
Authorial identity
Explicit authorial references
Implicit authorial references
L1 and L2 academic writing
Self-mention
Form and function

Article Info

Received: 03.25.2024
Accepted: 05.25.2025
Published Online: 10.30.2025

DOI: 10.15390/ES.2025.2497

¹ Gaziantep University, Faculty of Arts and Sciences, Department of English Language and Literature, Gaziantep, Türkiye, gucluruhan@gmail.com

examined through both manual corpus analysis and the corpus analysis tool AntConc 4.2.0 to facilitate data interpretation. In addition, log-likelihood analysis was performed to assess the statistical significance of the distribution patterns between the corpora. The findings indicate that Turkish authors employed self-mentions more frequently than their non-native counterparts, a tendency that may be attributed to the implicit authorial references embedded in their articles. Both corpora predominantly feature implicit authorial references, most notably agentless passives and animate or inanimate determiner phrases (DPs) functioning as agents. On the other hand, the analysis reveals that while first-person plural pronouns are rarely used, first-person plural suffixes serve as the primary means of explicit authorial reference in Turkish academic writing. Moreover, in both corpora, self-mentions perform similar rhetorical functions, such as describing research procedures. Based on these findings, I argue that authors' visibility choices may be shaped by genre-specific language use, linguistic characteristics, culturally grounded epistemologies, relationships within the academic community, prescriptive educational traditions, and personal preferences. Overall, this study provides insights into how academic authors construct their authorial selves in both L1 and L2 contexts, thereby contributing to the design and development of academic writing pedagogy and materials.

Introduction

The use of explicit authorial references was discouraged in scientific papers almost two decades ago, as it was believed to hinder objectivity (Chang & Swales, 1999). Therefore, novice academic authors were advised to use a passive tone to hide themselves in the text in an expert-like manner. Moreover, this could be a reason for editors to reject a research paper (Webb, 1992). However, in recent decades, self-mention has received much attention in academic writing (e.g., Harwood, 2005; Hyland, 2002; Ivanič, 1998; Kuo, 1999). Authors are now encouraged to use personal pronouns and explicitly present their original contributions. Hyland (2002) proposes that explicit self-reference has become recognized as "a powerful means by which authors express an identity by asserting their claim to speak as an authority, and this is a key element of successful academic writing" (pp. 1093-1094). According to Ivanič (1998), the entire text conveys information about the author, but using first-person singular pronouns presents the most powerful means of revealing authorial projection.

According to Hyland's (2005) Interpersonal Model of Metadiscourse, explicit authorial references can be realized as self-mention. As an essential interactional resource, self-mentions demonstrate the author's perspective and stance on the text, contributing to its reader-friendliness by fostering writer-reader interaction, similar to other interactional metadiscourse categories (e.g., hedges, boosters, attitude markers, engagement markers). These categories represent the author's voice and reflect the author's beliefs, emotions, and attitudes through words. More clearly, it can be argued that interactional metadiscourse categories serve rhetorical functions and are not tied to the content of ideas, arguments, beliefs, and feelings conveyed in the text, but instead to how they are presented to the reader. The communicative purpose of persuasive text types is to influence the reader's perspective in alignment with the author's point of view. To this end, authors use interactional categories to manage their relationship with the reader by focusing on how rather than what they write in their texts. In this

sense, self-mentions may be preferred by authors in texts written in their native or second foreign language to emphasize authorial presence and authority.

According to Hyland (2005), self-mentions may appear with explicit and implicit authorial references. This means that authors have the choice to present or conceal their presence in their texts. The explicit or implicit authorial references contribute to the interaction between the author and the reader. There are two dimensions of explicit and implicit references: grammatical forms and rhetorical functions. Explicit authorial references include first-person singular and plural pronouns (I, me, my, mine, we, us, our, ours, etc.), while implicit authorial references encompass agentless passives and inanimate subjects. The use of these forms of references reflects the broader role of self-mentions in academic writing, which situates the author within the educational community (Hyland, 2005).

Previous studies have shown that authors refer to themselves using various rhetorical functions (e.g., Dontcheva-Navrátilová, 2013; Karahan, 2013; Muñoz, 2013; Mur-Dueñas, 2007; Walková, 2019). In addition, several taxonomies for such roles have been proposed (Hyland, 2002; Luzón, 2009; Mauranen, 1993; Tang & John, 1999). For the present study, Hyland's (2002) list of rhetorical functions of self-mentions is considered more suitable than other taxonomies, as it is specifically designed for academic writing. Drawing on Tang and John's (1999) classification, Hyland (2002) developed five discourse functions of authorial self-mentions: expressing self-benefits, stating a goal/purpose, explaining a procedure, elaborating an argument, and stating results/claims (see Table 3 for the categorization and explanations of the rhetorical functions of self-mentions).

Literature Review

The author's representation in the text through self-mentions differs in written academic texts according to (a) genre (e.g., Hyland, 2003); (b) disciplinary conventions (e.g., Akbaş et al., 2024; Doğan-Uçar & Akbaş, 2022; Hyland, 1999, 2000, 2001a, 2005), and (c) cultural contexts (e.g., Basal & Bada, 2012; Yakhontova, 2006). These perspectives suggest that not all academic communities adhere to the same conventions, and that readers in different fields have diverse expectations and norms regarding the structure of arguments and the conveyance of authorial presence.

Authors from different sociocultural backgrounds display varying degrees of self-representation in their academic works (e.g., Abdollahzadeh, 2011; Carciu, 2009; Molino, 2010; Mur-Dueñas, 2007; Rongen Breivega et al., 2002). For instance, Carciu (2009) compared biomedical RAs written in English by native speakers with those in L2 English by Spanish authors and found a higher use of "we" pronouns among the Spanish authors. In their study, Wu and Zhu (2014) examined English and Chinese RAs in applied linguistics and revealed that English authors employed first-person singular pronouns more frequently than Chinese authors.

In Mur-Dueñas's (2007) comparative study, the use of first-person pronouns was more prominent in RAs written in English than in Spanish. The contrastive analysis conducted by Martínez (2005) showed that the use of first-person pronouns was significantly higher in English L1 authors' articles than in English L2 articles written by Spanish authors. Similarly, Kafes (2017) analyzed L1 and L2 English applied linguistics RAs and disclosed the predominant use of "I" in the L1 corpus and a noticeably high frequency of "we" and the third-person NP "the researcher" in the L2 English corpus. Kuhi et al. (2013) analyzed computer engineering research articles written in English by Iranian and American authors. Their study demonstrated that Iranian authors utilized considerably more explicit authorial references, whereas American authors mostly preferred to refer to themselves implicitly. These researchers have consistently shown that authorial references vary across cultures, demonstrating that Anglo-American academic scholars are more likely to use personal pronouns as self-mention devices in their scholarly works, particularly compared to English L2 authors. It should be noted that self-mention strategies have been predominantly examined in research articles from Indo-European languages, particularly in English.

The Need for the Study

Although recent studies about using self-mentions in academic writing shed light on the authorial strategies employed in the texts, very few studies have investigated the use of self-mentions in Turkish academic texts (e.g., Akbaş & Hardman, 2017; Çandarlı et al., 2015; Işık-Taş, 2018; Kafes, 2017). In particular, there remains a gap in the literature regarding the use of self-mentions, specifically the use of explicit and implicit authorial references in L1 and L2 TRAs .

Analyzing Turkish research articles is essential due to their structural differences from the Indo-European languages commonly studied in self-mention research. In this regard, exploring self-mentions in Turkish academic writing can reveal how language structure, linguistic norms, and cultural context influence their use, providing valuable insights into academic writing pedagogy. Notably, examining Turkish in both L1 and L2 contexts enables a deeper understanding of how native Turkish-speaking academic writers position themselves and how second-language Turkish writers navigate challenges and employ strategies in their writing.

Aim of the Study

This study has two main aims: First, I investigate the degree of visibility and authority conveyed in L1 and L2 TRAs by analyzing the full range of self-referential expressions categorized as explicit and implicit authorial references across three dimensions: realization, author roles related to rhetorical functions, and their distributions in L1 and L2 TRAs. Secondly, I aim to highlight the cultural conventions regarding the use of self-mentions, focusing on the differences in the usage and rhetorical functions of explicit and implicit authorial references by Turkish academic authors and those from different linguacultural backgrounds, contributing to a deeper understanding of cultural variation that could enhance academic writing practices. In this vein, this paper combines quantitative and qualitative analysis to address the following research questions:

1. What are the similarities and differences in the distribution of overall use of explicit and implicit self-mentions in L1 and L2 TRAs?
2. What might be the possible causes of the similarities and differences between L1 and L2 TRAs concerning explicit and implicit self-mentions?
3. How do academic authors of L1 and L2 TRAs construct explicit authorial references in terms of grammatical forms and rhetorical functions?
4. How do academic authors of L1 and L2 TRAs construct implicit authorial references in terms of grammatical forms and rhetorical functions?

Method

Corpus and Data Collection Procedure

This study is based on a corpus of 26 TRAs with a total of 162,003 words, comprising 13 written by Turkish authors and 13 by authors of other nationalities. The articles were chosen through criterion sampling and then randomly selected according to the criteria outlined below.

- a. All selected RAs are from a single journal, namely *Education and Science*.
- b. All selected RAs are written in Turkish.
- c. All selected RAs are multi-authored, with all native Turkish authors grouped together and all non-native authors categorized as a separate group.

- d. Every author of the selected articles in the TA corpus is a native Turkish speaker, whereas each author in the NTA corpus has been verified as a non-native speaker of Turkish (all of these articles are marked with an asterisk in the reference list).
- e. All selected RAs were published between 2015 and 2022.
- f. All selected RAs are full-length and follow Swales' (1990) conventionally accepted IMRD structure (Introduction, Method, Results, and Discussion).

The criteria outlined above are grounded in specific rationales. First, *Education and Science* is recognized as one of the leading peer-reviewed and indexed journals in the field of education and educational policy worldwide. Second, the journal does not restrict the use of the 'we' perspective in its submission guidelines. Third, all articles were selected as multi-authored works to control for the preference of 'we' over 'I'. Besides being published in a single journal during a specific period, the selected RAs share other common points as well. For instance, both L1 and L2 RAs are drawn from a variety of fields within the education domain, including social sciences (e.g., Özyürek & Şahin, 2015; Santepeci & Çakır, 2015; Su et al., 2017), educational psychology (e.g., Bacakoğlu & Taş, 2020; Safranç et al., 2020; Yurtbakan et al., 2020), and natural sciences (e.g., Gülsün & Köseoğlu, 2020; Han & Kim, 2020; Zeljić et al., 2021). These RAs apply both qualitative and quantitative methods.

The corpus covers all sections of the articles except for the title, acknowledgements, list of abbreviations, references, appendices, direct quotations, interviews, and questionnaires. Table 1 presents the size of the corpus, represented by the frequencies.

Table 1. Corpus size

Corpus	f	(%)
TA corpus	84,876	52.43%
NTA corpus	77,127	47.57%

As shown in Table 1, the TA corpus comprises 84,876 words, while the total number of words analyzed in the NTA corpus is 77,127. This results in a relatively balanced distribution between the corpora in terms of word count, with a minor difference of 4.86%.

Data Analysis Procedure

A mixed-method research approach is employed to yield more detailed findings regarding the phenomenon under investigation. The selected RAs are analyzed qualitatively to identify both explicit and implicit authorial references as metadiscourse markers and their rhetorical functions within the context. A quantitative analysis is conducted to determine the extent of authorial references and their roles in the selected RAs. Additionally, this study examines the two corpora through comparative corpus analysis to identify similarities and differences in the use of self-mentions.

Data analysis is performed using the corpus tool AntConc (version 4.0.11) (Anthony, 2020), a free software tool for corpus studies that enables researchers to conduct concordance and text analysis. The corpus in text format is uploaded into the corpus analysis toolkit, and Turkish first-person plural pronouns and suffixes are searched within the corpus to identify the words marked with self-mentions. This tool locates and lists all first-person plural pronouns and their suffixes. Furthermore, a manual corpus analysis is conducted to ensure the accuracy of detecting and calculating the number and type of self-mentions throughout the entire corpus.

After identifying and labelling instances as explicit or implicit authorial references, specifically in the context of self-mentions, they are categorized according to their rhetorical functions. This categorization relies on Hyland's (2005) Metadiscourse Model for self-mentions (see Table 2) and Hyland's (2002) framework of discourse functions of self-mentions (see Table 3), since both provide clarity and highlight reader-exclusive pronouns. However, this study is not limited to being corpus-

based; it is also corpus-driven. Therefore, in addition to the framework-guided analysis, all occurrences of self-mentions and their rhetorical functions identified in the corpus are illustrated.

To enhance the methodological reliability of the analysis, six articles (19.9% of the corpus data) were independently coded by the author and a second rater with a PhD in Linguistics. Inter-rater reliability, measured through Cohen's kappa, indicated almost perfect agreement ($\kappa = 0.978$). Subsequently, content analysis and frequency counts were conducted, and a log-likelihood test was applied to determine whether statistically significant differences occurred in the distribution of explicit and implicit authorial references across their forms and functions.

Analytical Framework

The present study adopts Hyland's (2005) model of metadiscourse as its theoretical framework. The reason for this choice is that the model is believed to be specifically designed for academic writing. Nevertheless, as Hyland's (2005) definition poses certain challenges when applied to the structural properties of Turkish, his taxonomy is not adopted as the sole point of reference in the present analysis of self-mentions. Turkish, as a prototypical pro-drop language, permits null subjects that are pragmatically and morphosyntactically retrievable through verbal agreement morphology, which encodes person and number. In light of this extensive system of verbal inflection, all linguistic resources employed by the authors for self-reference are subjected to meticulous examination.

Previous studies have shown that the use of metadiscourse differs both by the language of the academic text (e.g., Jalilifar, 2011; Lee & Casal, 2014; Mirshamsi & Allami, 2013; Mur-Dueñas, 2011; Yang, 2009) and the cultural background of the authors (e.g., Boshraadi et al., 2014; Dontcheva-Navratilova, 2018). These studies mainly applied Hyland's (2005) classification of metadiscourse markers (MDMs) to English academic texts. However, since metadiscourse use varies across languages and cultures, this taxonomy needs adjustment for Turkish. Accordingly, this study employs an eclectic taxonomy tailored to the linguistic characteristics of Turkish and informed by prior research on Turkish metadiscourse (e.g., Ädel, 2006; Akbaş & Hardman, 2017; Bal-Gezegin, 2016; Bayyurt, 2010; Esmer, 2018; Göksel & Kerslake, 2011; Güçlü, 2024; Hyland, 2001b; Kan, 2016; Kornfilt, 1996; Tarcan, 2019; Underhill, 1979). This taxonomy has been developed to analyze the grammatical forms of explicit and implicit authorial self-mentions used in TA and NTA corpora. Table 2 illustrates the eclectic taxonomy for self-mentions employed in this study.

Table 2. Categorization of Turkish Self-Mention Devices

Category	Forms
Explicit	First-person plural personal pronoun: <i>we</i> (nominative case)
Authorial	Inflected forms of <i>biz</i> "we": <i>bizim</i> "our" (genitive/possessive pronoun), <i>bizi</i> "us" (accusative), <i>bize</i> "to us" (dative), <i>bizde</i> "on us" (locative), <i>bizden</i> "from us" (ablative), <i>bizimle</i> "with us" (instrumental), <i>bizce</i> "according to us" (equitative)
References	First-person plural possessive pronoun: <i>bizimki</i> "ours" (with the suffix <i>-ki</i>)
	First-person plural reflexive pronoun: <i>kendimiz</i> "ourselves" (nominative case)
	Inflected forms of <i>kendimiz</i> "ourselves": <i>kendimizin</i> "of ourselves" (genitive/possessive), <i>kendimizi</i> "ourselves" (accusative), <i>kendimize</i> "to ourselves" (dative), <i>kendimizde</i> "on ourselves" (locative), <i>kendimizden</i> "from ourselves" (ablative), <i>kendimizle</i> "with ourselves" (instrumental), <i>kendimizce</i> "according to ourselves" (equitative)
	First-person plural possessive pronoun: <i>kendimizinki</i> "that which is ours" (with the suffix <i>-ki</i>)
	First-person plural verbal suffixes: <i>-k</i> , <i>-(I)z</i> , <i>-(U)z</i> (e.g., <i>aldık</i> "we took", <i>alırız</i> "we take", <i>alacağız</i> "we will take", <i>alıyoruz</i> "we are taking", <i>görmüşüz</i> "we have seen")
	First-person plural possessive nominal suffixes: <i>-mIz</i> , <i>-mUz</i> , <i>-(I)mIz</i> , <i>-(U)mUz</i> (e.g., <i>arabamız</i> "our car", <i>tükettiğimiz</i> "what we consumed")
Implicit	Agentless passives (e.g., <i>rastlanmıştır</i> "it has been encountered", <i>incelenmiştir</i> "it has been examined")
Authorial	Animate subjects (e.g., <i>araştırmacı</i> "researcher", <i>araştırma ekibi</i> "research team")
References	Inanimate subjects (e.g., <i>bu araştırma</i> "this research", <i>bu çalışma</i> "this study")

As shown in Table 2, first-person plural pronouns and suffixes are considered exclusively in reference to the authors; that is, only instances of the exclusive “we” functioning as self-mention markers are retained in the analysis. Instances of the inclusive “we”, which simultaneously index both authors and readers, are excluded, as this form invokes shared knowledge and operates as an engagement marker rather than as a self-mention. For instance, in the phrase *yaşadığımız dünyada* “in the world we live in”, the suffix *-mız* encompasses both the authors and the readers, indicating an inclusive “we.” On the other hand, in *çalışmamızda*, the same suffix *-mız* refers exclusively to the authors, thereby excluding the readers and functioning as a marker of the exclusive “we.” Another distinct use of “we” as a metadiscourse marker is the editorial “we,” which occurs when a single author presents the text as if it were written by multiple authors; in such cases, it often serves a hedging function. Nevertheless, since only multi-authored articles are included in this study, the use of the editorial “we” is excluded from the analysis. Considering all other possible functions of the use of “we” in the whole corpus, metadiscourse units are analyzed within the context they are situated in, and only the first-person plural pronouns and suffixes functioning as self-mentions are examined in all their occurrences and regarding their rhetorical functions.

As for the rhetorical functions, the authorial references expressed through the words under investigation are categorized according to Hyland’s (2002) classification of discourse functions of self-mention. Hyland (2002) identifies five such functions: (i) expressing self-benefits, (ii) stating a purpose, (iii) explaining a procedure, (iv) elaborating an argument, and (v) stating results/claims. In addition to these functions, a search list compiled by Solsun and Akbaş (2022), based on previous studies on discourse functions, is utilized to identify and classify self-mention markers in terms of their rhetorical roles. Consequently, drawing on an eclectic taxonomy of these functions, ten principal discourse functions of authorial presence are established for the contextual analysis, as summarized in Table 3.

Table 3. Categorization of Rhetorical Functions of Self-Mentions

Functions	Rhetorical functions
Function 1 Stating a goal/purpose	The writers explain their purpose in carrying out the research.
Function 2 Explaining a procedure	The authors seek to make the procedure more understandable for their readers.
Function 3 Showing results/findings	The researchers clarify their findings - mainly using the verb ‘find.’
Function 4 Assessing the limitations of their research	The writers criticize themselves or the research procedure.
Function 5 Showing the personal beliefs/ideas of the writers about the study	The authors communicate with their readers by explaining their personal beliefs.
Function 6 Assessing the strength of their research	The researchers try to show the strong perspective of their study.
Function 7 Describing themselves	The writers introduce themselves to their potential readers in order to create an invisible connection.
Function 8 Making a claim/prediction	The authors show their hesitation about a claim or prediction.
Function 9 Making suggestions	The researchers advise their readers for future research.
Function 10 Stating a hypothesis, an expectation, or a wish	The writers clearly state their expectations for the results.

As shown in Table 3, self-mentions serve various rhetorical functions in a research paper. The frequency of these rhetorical functions can vary according to the sections of the paper. Authors may prefer to make themselves visible in their articles through various functions, and the frequency of their usage may differ from section to section. For example, in the Introduction section, self-mentions

frequently indicate the purpose of the study. In contrast, they are mainly used to explain the procedure in the Methodology section. In the Results, Discussion, and Conclusion sections, authors must refer to themselves to explain the study results, limitations, and suggestions for future research. Therefore, since self-mentions may serve very different rhetorical functions according to the needs and nature of various sections of a research article, this study analyzes all sections to identify and categorize all occurrences and rhetorical functions of self-mentions. Similarly, given that a linguistic unit can fulfil multiple metadiscursive functions due to its multifunctional nature, every function of self-mention has been taken into account in this study. More specifically, the exclusive use of “we” may simultaneously serve several metadiscursive functions. For instance, the subordinate clause *Yöntem bölümünde açıkladığımız gibi* “As we discussed in the methodology section” contains -(I)mIz “we”, which functions both as an endophoric marker and as a self-mention. Regardless of the number of rhetorical functions a linguistic unit may fulfil, any instance referring to the authors of the research articles is considered a self-mention and included in the analysis.

Results and Discussion

This section presents the results of the analysis, detailing the frequency, comparison, and rhetorical functions of self-mention across both corpora. First, the overall frequency of self-mention is revealed within both corpora. Secondly, a categorical comparison of self-mention as explicit and implicit authorial elements is provided. Thirdly, the grammatical forms and rhetorical functions of explicit authorial references in TA and NTA corpora are illustrated with graphics accompanying examples extracted from the corpus, and the findings are discussed. Finally, the findings about implicit authorial references, along with their grammatical forms and rhetorical functions, are presented from the TA and NTA corpora, accompanied by examples and discussed.

Overall Use of Explicit and Implicit Authorial References

To address the first and second research questions concerning the similarities and differences in how explicit and implicit self-mentions are used in L1 and L2 TRAs, as well as the potential factors that may explain these variations, this section presents both qualitative and quantitative findings. The analysis shows that self-mentions are frequently employed in both corpora, with varying patterns of explicit and implicit authorial references, as illustrated in Table 4.

Table 4. Log-likelihood Results of Explicit and Implicit Authorial References

	TA		NTA		LL Ratio
	f	%	f	%	
Explicit authorial references	7	0.01	182	0.24	-96.50****
Implicit authorial references	2223	2.62	1073	1.39	+307.26****
Total use of self-mentions	2230	2.63	1255	1.63	+191.09****

Asterisks on the ratios indicate significance levels determined by the log-likelihood test.

****= significant at $p < 0.0001$ (log-likelihood > 15.13); f: observed frequency in the corpus; %: relative frequency in the text; + higher frequency in NTA compared to TA; - lower frequency in NTA compared to TA

Table 4 illustrates that both TA and NTA authors frequently employ self-mentions in their RAs, both explicitly and implicitly. The overall use of self-mentions in the TA corpus (f: 2230) and NTA corpus (f: 1255) indicates that academic discourse is more than just objective and impersonal. More clearly, an RA is not a modest, self-effacing genre devoid of authorial presence; rather, it is a space where authors strategically incorporate self-mentions and project themselves into their work. Using self-mentions also implies that authors are aware of the specific communicative functions of the authorial references, and they cannot avoid projecting an impression of themselves and how they relate to their arguments, their community, and their readers.

The distribution of self-mentions across the corpora, as shown in Table 4, indicates notable similarities and differences regarding the use of implicit and explicit authorial references. Both TAs and NTAs tended to overuse implicit authorial references compared to explicit ones, which supports the genre-based use of language. It has been noted that, regardless of culture and native language, authors tend to downplay their authorial identity by using more implicit references in their TRAs. This trait could result from distinctive features of research-based genres.

As for the differences, Table 4 indicates that the difference in the occurrence of self-mentions across corpora is statistically significant, and Turkish authors use self-mentions more frequently than their non-native counterparts (LL ratio: +191.09; p-value < 0.0001). The high frequency of self-mentions by Turkish authors is attributed to the significant overuse of implicit authorial references in their articles (LL ratio: +307.26; p-value < 0.0001). As part of a collective culture that values and promotes modesty, Turkish authors may avoid explicitly asserting their presence in their texts and prefer to adhere to culturally shaped conceptions of authorial presence. Thus, it can be argued that preferences in authorial references are influenced by external factors such as authors' social and cultural backgrounds (Ivanič, 1998). Korean, Chinese, or Slovak authors may also avoid overt authorial presence in their L2 English academic texts and rely on implicit authorial references (Chen, 2020; Walková, 2019), demonstrating their culturally shaped conceptions of authorial presence, which reflect collective cultural norms (Hyland, 2002). This study indicates that the lower use of explicit authorial references (f: 7) and the higher use of implicit authorial references (f: 2223) by native-Turkish authors suggest that tendencies in authorial references may differ due to culturally shaped epistemologies, relationships with the community, and a general sense of self, all of which can influence authors' decisions to intervene in their texts. In a similar vein, Dontcheva-Navrátilová (2018) and Ivanič (1998) suggest that authors' cultural backgrounds deter them from using personal self-reference devices, as authorial references are influenced by external factors such as the authors' social and cultural backgrounds. Previous research has also consistently demonstrated that authors from different sociocultural backgrounds tend to exhibit varying degrees of self-representation in their academic works (Abdollahzadeh, 2011; Basal & Bada, 2012; Karahan, 2013; Martínez, 2005; Molino, 2010; Mur-Dueñas, 2007; Sheldon, 2009; Yakhontova, 2006).

The higher frequency of implicit authorial references compared to explicit ones by non-native Turkish authors in their RAs may indicate that they recognize Turkish culture's respect for modesty. It can be argued that these authors tend to adopt Turkish discursive practices. In contrast, native Turkish authors seem even more likely to downplay their authorial presence so that their work can be recognized and accepted within the norms of the Turkish academic context. Belcher (2007) states that non-native English authors often adopt Anglo-American discursive practices to publish their articles in prestigious international journals that accept submissions only in English. In this regard, it can be argued that L2 authors are inclined to conform to the discursive norms of the language in which they are writing. At the same time, while adopting the rhetorical conventions of the target language and culture, they retain specific rhetorical patterns from their native language while writing in their L2. This blending of discourses is referred to as "interdiscursive hybridity" (Mauranen et al., 2020). In the context of the present study, interdiscursive hybridity can be interpreted as non-native Turkish authors navigating between explicit and implicit authorial references, influenced by the fact that while explicit self-mentions are encouraged in global academic discourse, implicit ones are preferred in the Turkish academic tradition due to the cultural value placed on modesty. More precisely, non-native Turkish authors not only tend to use implicit authorial references more frequently and adapt to the discursive practices of their second language, but they also make themselves more explicitly visible in their texts by incorporating explicit self-mentions in their research articles, unlike native Turkish authors (LL ratio: -96.50; p value < 0.0001). This finding aligns with Güçlü's (2024) study, which examined the use of "I" and "we" in textbooks for teaching Turkish to foreigners. The study revealed that the preference for the inclusive "we" and implicit self-mentions reflects the collectivist and modest tendencies of Turkish

culture. Similarly, these patterns suggest that linguistic choices in academic writing are closely intertwined with culturally shaped discourse practices.

Their choice to be visible in their work seems linked to the increasing recognition of first-person pronouns as powerful tools for asserting authority and expressing personal stance in academic writing (Flowerdew & Wang, 2015; Harwood, 2005; Hyland, 2001a, 2002; Lorés-Sanz, 2011; Tang, 2006), as well as the dominance of English as the global lingua franca of academic communication and research, which encourages greater authorial visibility. In this context, non-native Turkish authors negotiate their academic identities by drawing on both local and global discourse traditions of the second language. Similarly, Güçlü (2025) emphasizes that metadiscourse functions as a fundamental rhetorical resource in shaping persuasive opinion essays written in L2 Turkish by native Albanian learners, revealing a frequent use of self-mention devices to sustain engagement and highlighting the pedagogical significance of fostering metadiscourse awareness in academic writing. These findings stress the importance of understanding the role of linguistic and cultural factors in shaping academic writing practices, particularly in how authors engage with academic communities and position themselves within their texts.

Below, all instances of the realizations and rhetorical functions of explicit authorial references are presented first, followed by those of implicit authorial references.

Realizations and Rhetorical Functions of Explicit Authorial References

This section addresses the third research question by presenting the results and findings on how academic authors of L1 and L2 TRAs construct explicit authorial references regarding both their grammatical forms and rhetorical functions. Figure 1 illustrates the grammatical forms of explicit authorial references used in TA and NTA.

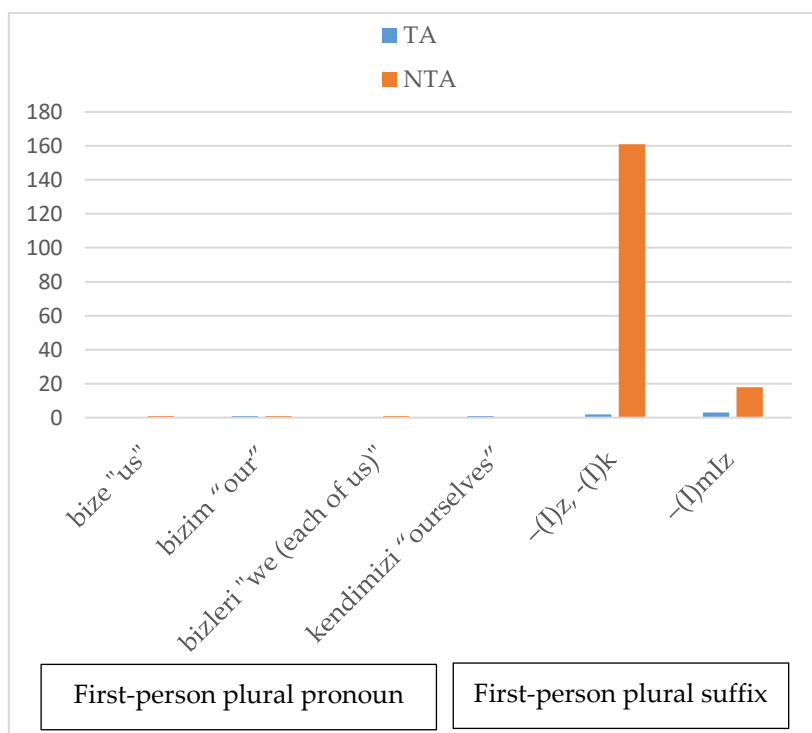


Figure 1. Realizations of Explicit Authorial References in TA and NTA

The concordance analysis indicates that only a few occurrences of first-person plural pronouns appear in both corpora, such as first-person plural pronouns with dative case marker *bize* "us" (NTA, f:1) and first-person plural pronouns with accusative case marker *bizleri* "we (each of us)" (NTA, f:1), first-person plural possessive pronoun *bizim* "our" (TA, f:1; NTA, f: 1), and first-person plural reflexive

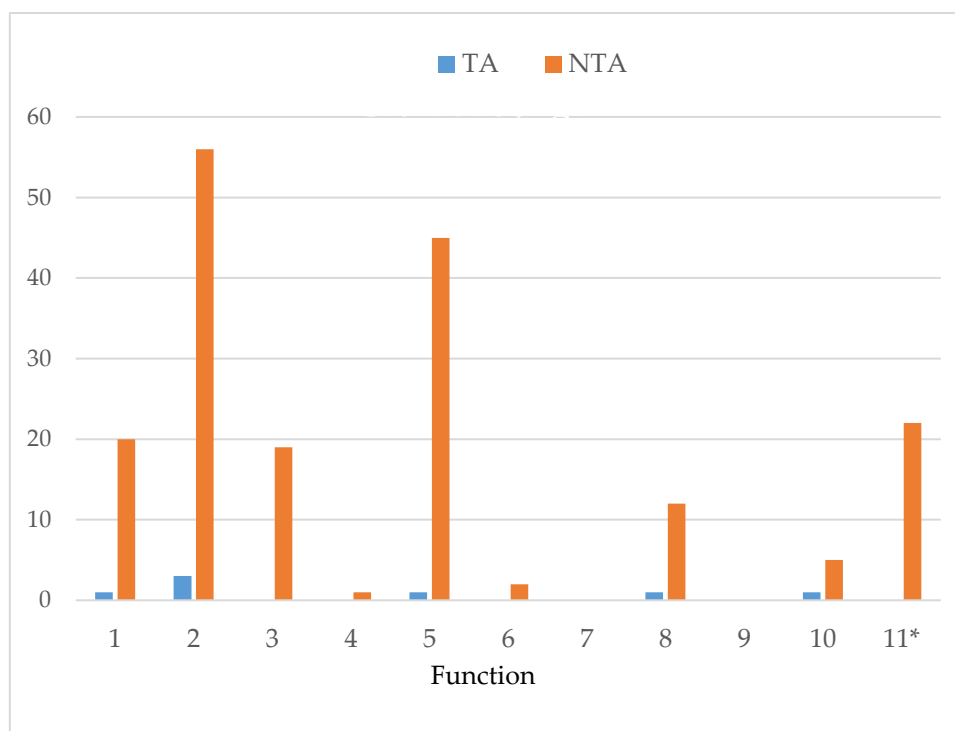
pronoun with accusative case marker *kendimizi* “ourselves” (TA, f:1). On the other hand, first-person plural suffixes are employed more frequently than pronouns in both corpora, such as first-person plural verbal suffixes *-(I)z*, *-(I)k* (TA, f:2; NTA, f:161) and first-person plural possessive nominal suffix *-(I)mIz* (TA, f:3; NTA, f:18). It can be deduced that both native and non-native authors do not prefer to refer to themselves explicitly with the use of first-person plural pronouns in their academic texts. This may be attributed to the fact that personal pronouns pose a challenge in academic writing, and some authors often hesitate to use them. In addition, both non-native and native Turkish authors prefer using first-person plural suffixes when they explicitly refer to themselves. The frequent use of suffixes in both corpora, especially in NTA, can be attributed to the fact that NTAs employ the pro-drop and agglutinative structure of the Turkish language. Similarly, Korean personal pronouns can be omitted when they are inferable from the context. This allows authors to refer to themselves implicitly in their texts through third-person noun phrases (e.g., the researcher) or through impersonal constructions with inanimate noun phrases or abstract rhetors (e.g., this study) (Hyland, 1996). Therefore, non-native Turkish authors recognize that they can refer to themselves by establishing subject-verb agreement through the use of first-person plural verbal and nominal suffixes.

Regarding the comparative results, log-likelihood analysis indicates that NTAs significantly overuse first-person plural verbal suffixes *(I)z*, *(I)k* (LL ratio: -219.98; p value<0.0001), and first-person plural possessive nominal suffixes *-(I)mIz* (LL ratio: -13.37; p value<0.001) in their articles. This finding reveals that non-native Turkish authors frequently use these suffixes to make explicit authorial references, suggesting that the prevalent use of these suffixes plays a crucial role in their inclination to refer to themselves explicitly (see Table 4).

Below are some excerpts from the corpus to illustrate examples of explicit authorial references:

1. *Araştırma süreci boyunca kendimizi paranteze alarak, önyargılarımızı göz önünde bulundurarak süreci yönetmeye çalışsak da veri toplama sürecindeki varlığımızın katılımcıların yanıtlarını etkilemiş olma ve bizim bu yanıtları doğru değerlendirememeye olasılığı mümkündür* (Ateş & Ünal, 2022). “Although we tried to manage the process by bracketing ourselves throughout the research process and taking into account our prejudices, it is possible that our presence in the data collection process affected the participants' answers and that we could not evaluate these answers properly.”
2. *Bu bulgu, önerdiğimiz oyunun, bilgisayar ve video oyunlarına karşı tutumlara bakılmaksızın tüm öğrenciler tarafından kullanılabileceği yönünde bizleri cesaretlendirmiştir* (Chang et al., 2015). “This finding encouraged us that the game we proposed can be used by all students, regardless of attitudes towards computer and video games.”
3. *Bize göre bu dikkat edilmesi gereken bir husustur* (Romero et al., 2015). “For us, this is a matter that deserves careful consideration.”
4. *Önceki çalışmalarda önerilen modellerin verilerimize nasıl uyum gösterdiğini test etmek için CFA kullanılmıştır* (Safranç et al., 2020). “CFA was employed to examine the extent to which the models proposed in previous studies fit our data.”

These grammatical forms of explicit authorial references are found in the corpus serving various rhetorical functions, such as stating a goal/purpose (Function 1), explaining a procedure (Function 2), showing results/findings (Function 3), assessing the limitations of their research (Function 4), showing the personal beliefs/ideas of the writers about the study (Function 5), evaluating the strength of their research (Function 6), describing themselves (Function 7), making a claim/prediction (Function 8), making suggestions (Function 9), stating a hypothesis, expectation, or wish (Function 10), and establishing intra-textual connections (Function 11). Figure 2 illustrates the distribution of these rhetorical functions of explicit authorial references.



(The asterisk on the 11th functional category indicates a rhetorical function identified in the corpus and added as a new category to the list of explicit self-mention functions).

Figure 2. Distribution of Rhetorical Functions of Explicit Authorial References in TA and NTA

As Figure 2 shows, NTAs primarily apply explicit authorial references to explain the procedure, state a goal/purpose, express their personal beliefs and ideas about the study, make a claim/prediction, state a hypothesis, expectation, or wish, and present results/findings. Moreover, establishing intra-textual connections is another rhetorical function of explicit authorial references in the present study, which is used solely by NTAs. This indicates that NTAs not only frequently refer to themselves explicitly but also employ a variety of rhetorical functions, including that of a discourse organizer. On the other hand, Turkish authors explicitly refer to themselves, primarily to explain the procedures of their studies. Figure 2 also shows that both TAs and NTAs explicitly refer to their authorial identity to clarify the procedure of their studies. This shows that regardless of cultural background, the authors emphasize the methodological aspect of their studies to enhance the transparency and comprehensibility of the research for the readers. This finding could be attributed to RAs being an academic genre. As another common point between the two corpora is that neither TAs nor NTAs employed explicit authorial experiences to describe themselves. Furthermore, the lesser use of functions such as assessing the strengths and limitations of their studies and making suggestions can also be associated with the characteristics of RAs as a subgenre of the academic genre, as these functions are mentioned less frequently in RAs compared to other essential information included, such as methodological procedures. The function of making suggestions could be employed more frequently if the data included advice columns. It could also be argued that readers may avoid interacting with others and expressing their attitudes to others due to the lesser-used functions, such as making suggestions and describing themselves.

Table 5 presents the log-likelihood results for the rhetorical functions of explicit authorial references in the TA and NTA corpora.

Table 5. Log-likelihood Results for Rhetorical Functions of Explicit Authorial References in L1 and L2 TRAs

Explicit authorial references	TA		NTA		
Rhetorical functions	f	%	f	%	LL ratio
Stating a goal/purpose	1	0.00	20	0.03	-22.94****
Explaining a procedure	3	0.00	56	0.07	-63.28****
Showing results/findings	0	0.00	19	0.02	-28.20****
Assessing the limitations of their research	0	0.00	1	0.00	-1.48
Showing the personal beliefs/ideas of the writers about the study	1	0.00	45	0.06	-58.45****
Assessing the strength of their research	0	0.00	2	0.00	-2.97
Describing themselves	0	0.00	0	0.00	+0.00
Making a claim/prediction	1	0.00	12	0.02	-12.05***
Making suggestions	0	0.00	0	0.00	+1.29
Stating a hypothesis, an expectation, or a wish	1	0.00	5	0.01	-3.31
*Establishing intra-textual connections	0	0.00	22	0.03	-32.66****

Asterisks on the ratios indicate significance levels determined by the log-likelihood test.

= significant at $p < 0.001$ (log-likelihood > 10.83); *= significant at $p < 0.0001$ (log-likelihood > 15.13); f: observed frequency in the corpus; %: relative frequency in the text; + higher frequency in NTA compared to TA; - lower frequency in NTA compared to TA

(The asterisk placed on the functional category indicates a rhetorical function identified in the corpus and newly added to the list of self-mention functions).

As illustrated in Table 5, non-native and native Turkish authors behave differently in their TRAs when explicitly referring to themselves. Non-Turkish authors significantly overused functions such as explaining a procedure (LL ratio: -63.28; p value < 0.0001), stating a goal/purpose (LL ratio: -22.94; p value < 0.0001), showing results/findings (LL ratio: -28.20; p value < 0.0001), showing the personal beliefs/ideas about the study (LL ratio: -58.45; p value < 0.0001), making a claim/prediction (LL ratio: -12.05; p value < 0.001), and establishing intra-textual connections (LL ratio: -32.66; p value < 0.0001) when compared to their native counterparts.

While the similar distributional pattern of rhetorical functions in the TA and NTA corpora (see Figure 2) reflects the generic characteristics of research articles, the overuse of these explicit rhetorical functions by NTAs points to cultural tendencies, particularly a strong preference for explicit authorial references in the NTA corpus compared to those found in the RAs of Turkish authors. Below are examples for each function from the corpus that help authors explicitly refer to themselves.

Stating a goal/purpose (Function 1)

5. *Bu makalede, orta dereceli okul öğrencilerinin jeo-uzamsal düşünme yeteneklerinin tahmin edilmesi amacıyla karar ağacı algoritmasına dayanan bir tahmin modeli oluşturarak bu boşluğu doldurmayı amaçlıyoruz* (Xie et al., 2022). "In this article, **we aim** to fill this gap by creating a prediction model based on the decision tree algorithm to predict the geo-spatial thinking abilities of secondary school students."

Explaining a procedure (Function 2)

6. *Öğrencilerin kullandıkları strateji ile sonucun doğruluğu arasındaki ilişkiyi araştırmak için, Fisher-Freeman-Halton testini kullanarak R'deki Strateji değişkeni ile R'de Başarıyı, A'daki Strateji ile A'da Başarıyı ve G'deki Strateji ile G'de Başarıyı karşılaştırdık* (Zeljić et al., 2021). "To investigate the relationship between the strategy used by the students and the accuracy of the result, **we compared** the Strategy variable in R with Success in R, Strategy in A with Success in A, and Strategy in G with Success in G, using the Fisher-Freeman-Halton test."

Showing results/findings (Function 3)

7. *Bulgumuz ise beklentilerimizi doğrulamış ve önerdiğimiz oyunun hem öğrencilerin oyunu oynarken fizikle ilgili gerekli bilgilerinin olup olmadığını dolaylı yoldan anlamak için hem de fiziğin yörünge kanunu öğrenmekte olan öğrenciler ile kullanılabileceğini göstermiştir* (Chang et al., 2015). “**Our finding** confirmed our expectations and showed that the proposed game could be used both to indirectly understand whether students possess the necessary physics knowledge while playing the game and with students learning the law of orbits.”

Assessing the limitations of their research (Function 4)

8. *Hareket algılama motoru özel ve çok amaçlı olmasına rağmen bizim sadece yakalama-tutma hareketlerinin algılanmasına ihtiyacımız vardı* (Chang et al., 2015). “Although the motion detection engine is special and multi-purpose, **we only needed** to detect catch-hold movements.”

Showing the personal beliefs/ideas of the writers about the study (Function 5)

9. *Bu nedenle, lider öğretmenliğin onlar için yeni bir kavram olmadığını düşünümekteyiz* (Tahir et al., 2020). “For this reason, **we think** that teacher leadership is not a new concept for them.”

Assessing the strength of their research (Function 6)

10. *Bu bulgu, önerdiğimiz oyunun, bilgisayar ve video oyunlarına karşı tutumlara bakılmaksızın tüm öğrenciler tarafından kullanılabileceği yönünde bizleri cesaretlendirmiştir* (Chang et al., 2015). “This finding **encouraged us** that the game we proposed could be used by all students, regardless of attitudes towards computer and video games.”

Making a claim/prediction (Function 7)

11. *Böylece, öğrencilerin diğer bağlamlarda problem çözmedeki başarılarında bir artış olabileceğini düşünüyoruz* (Zeljić et al., 2021). “Thus, **we think that there may be** an increase in students' success in solving problems in other contexts.”

Making suggestions (Function 8)

12. *Bu anlamda kendilerine coğrafya derslerinde sınıf düzenini sağlayarak ve öğrencilere zamanında ve yeterli düzeyde rehberlik sunarak iyi bir eğitim ortamı oluşturmalarını öneririz* (Xie et al., 2022). “In this sense, **we recommend** that they create a good educational environment by ensuring classroom order in geography lessons and providing timely and adequate guidance to students.”

Stating a hypothesis, an expectation, or a wish (Function 9)

13. *İkincisi, insanların bilgisayar/video oyunlarına karşı pek çok farklı tutum sergilediklerini bildiğimiz için öğrencilerin tutumları ile oyun oynama performansı arasında herhangi bir ilişki olmadığını göreceğimizi umuyoruz* (Chang et al., 2015). “Second, since we know that people have many different attitudes towards computer/video games, **we expect** to see no correlation between students' attitudes and gaming performance.”

*Establishing intra-textual connections (Function 10)

14. *Daha önce de belirttiğimiz gibi, öğrencilerin ders kitaplarındaki problemler, ilk üç görevle benzer karmaşıklığa sahiptir* (Zeljić et al., 2021). “**As we mentioned earlier**, the problems in students' textbooks are of similar complexity to the first three tasks.”

This section presents the findings related to the second research question. It reports the realizations and rhetorical functions of explicit authorial references in the TA and NTA corpora, together with their distributions, comparative results, and illustrative examples drawn from the corpus.

Realizations and Rhetorical Functions of Implicit Authorial References

This section explores how academic authors of L1 and L2 TRAs construct explicit authorial references, focusing on their grammatical forms and rhetorical functions. This addresses the third research question by presenting related results and findings. The concordance analysis revealed the distribution of implicit authorial references in grammatical forms, as shown in Figure 3.

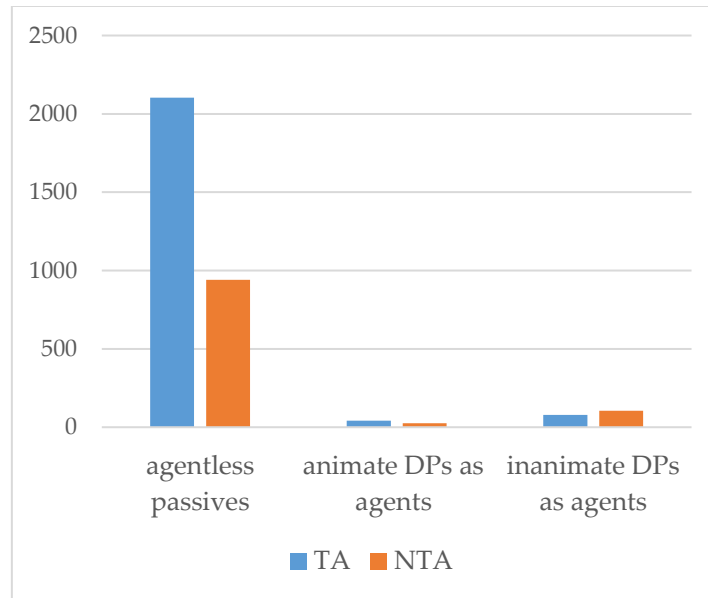


Figure 3. Distribution of Realizations of Explicit Authorial References in TA and NTA

In addition to being grounded in a corpus-based analytical framework developed from the findings of previous studies (see Table 2), the corpus-driven analysis reveals that both TAs and NTAs employ agentless passives, animate DPs, and inanimate DPs to implicitly refer to themselves in their research articles, as illustrated in Figure 3. By contrast, animate and inanimate DPs appear only rarely, with inanimate DPs used slightly more often in both corpora. This strong preference for passives suggests that authors tend to hide their authorial presence through passive suffixes, making use of the agglutinative nature of Turkish morphology. Table 6 presents the distribution of these implicit self-mention strategies across the two corpora.

Table 6. Realizations and Frequencies of Implicit Authorial References in TA and NTA

Implicit authorial references		TA		NTA	
Forms	Instances	f	%	f	%
Agentless passives					
Main clause verbal passive suffixes	-Il/(I)n	1361	1.60	681	0.88
Subordinate clause verbal passive suffixes	-IlAn (participle)	556	0.65	156	0.21
	-IldİğI (participle)	74	0.08	12	0.02
	-IldİğIndA (converb)	12	0.01	92	0.11
Animate DPs as agents	Araştırmacılar "The researchers"	42	0.04	8	0.01
	Yazarlar "The authors"	0	0.00	18	0.02
Inanimate DPs as agents	Bu çalışma "This study"	42	0.04	48	0.06
	Bu makale "This article"	0	0.00	1	0.00
	Bu araştırma "This research"	26	0.03	35	0.04
	Bu bulgu "This finding"	10	0.01	22	0.02

Table 6 clearly shows that both TAs and NTAs employ various realizations to refer to themselves implicitly. In both corpora, agentless passives appear in two forms, including main clause

verbal passive suffixes (-*Il*/*I**n*) and subordinate clause verbal passive suffixes (-*IlAn*, -*İldİğİ*, -*İldİğİndA*). These suffixes are provided below, along with their context, extracted from the corpus.

Agentless passives with main clause verbal passive suffix

15. *Bu çalışmada yer alan iller sırasıyla Doğu, Orta ve Batı Çin'den seçilmiştir* (Su et al., 2017). "The provinces included in this study **were selected** respectively from Eastern, Central, and Western China"
16. *Tablet bilgisayar programındaki etkinliklerin listesini gösteren bir ekran görüntüsü Şekil 1'de verilmiştir* (Eliçin & Tunalı, 2016). "A screenshot displaying the list of activities in the tablet computer program **is presented** in Figure 1"
17. *Veri toplamak için gerekli olan etik kurul izin belgesi alınmıştır* (Gülsün & Köseoğlu, 2020). The ethics committee approval required for data collection **was obtained**.

These examples show that the authors implicitly refer to themselves through the passive verbal suffix -*(I)l*, which functions as the predicate in the main clause.

Agentless passives with a subordinate clause verbal passive suffix

18. *Araştırmada elde edilen veriler içerik çözümlemesi yöntemi ile çözümlenmiştir* (Köysüren & Deryakulu, 2017). "The data **obtained** in the research were analyzed using the content analysis method."
19. *Her resim gösterildiğinde çocuğun önüne yüz ifadelerini içeren kartlar sıralanmış ve "Resimde gösterilen olaya tepkin nasıl olurdu, yüz ifadelerinden birini seçer misin?" diye sorulmuştur* (Özyürek & Şahin, 2015). "When each picture **was shown**, the cards containing facial expressions were placed in front of the child and asked, 'How would you react to the event shown in the picture, would you choose one?' was asked."
20. *Çalışmanın gerçekleştirildiği her iki okul da ilçe merkezinde yer almaktadır.* (Kanyılmaz & Yücel, 2020) "Both schools where the study **was conducted** are located in the district center."
21. *Öğrencilerin etkileşimli okumayı tercih etme nedenleri genel olarak incelendiğinde ise, sürece aktif katılmalarının ve etkileşim içinde olmalarının bu tercihte önemli olduğu söylenebilir* (Yurtbakan et al., 2020). When the reasons for students' preference for interactive reading are generally examined, it can be stated that their active participation in the process and their engagement in interaction are important in this preference.

In sentences (18)-(21), the authors also implicitly refer to themselves using passive verbal suffixes, but in this case these functions also appear in subordinate clauses. These subordinate clause verbal passive suffixes include -*IlAn* and -*İldİğİ*, which are participles as they form non-finite verbs in relative clauses, and -*İldİğİndA*, which forms a converb as a non-finite verb in adverbial clauses. Although the Turkish language also has another non-finite verb form, namely verbal nouns that appear as non-finite verbs of noun clauses (Göksel & Kerslake, 2005), no verbal nouns that implicitly refer to the authors were detected. Moreover, log-likelihood results indicate that Turkish authors significantly overused both main clause verbal passive suffixes (+170.40, $p < 0.0001$) and subordinate clause verbal passive suffixes (LL ratio: +197.90; $p < 0.0001$).

Previous research has indicated the prominence of passives in academic discourse. For instance, Akbaş and Hardman (2017) revealed that authors frequently employed agentless passives to present research findings, while Işık-Taş (2018) emphasized the role of cultural factors in shaping their use. Overall, these studies suggest that agentless passives are strategically employed to emphasize objectivity and depersonalize academic discourse. In particular, by using agentless passives, authors direct the readers' attention to the neutrality of the research process rather than to their own role.

In terms of frequency, inanimate DPs as agents follow agentless passives in both corpora. Rather than explicitly referring to themselves, authors assign the role of agent to certain DPs, thereby backgrounding their own presence. Illustrative examples of inanimate DPs as agents from the corpora are provided below.

22. *Bu nedenle, bu çalışma* Karadağ'daki okul öncesi eğitim kurumlarındaki çocukların korkularını çizimler ve sözel tasvirler üzerinden nasıl gösterdiklerini incelemeyi amaçlamaktadır (Novovic & Micanovic, 2020). "Therefore, **this study** aims to examine how children in pre-school education institutions in Montenegro show their fears through drawings and verbal descriptions."
23. *Bu araştırma*, çeşitli demografik değişkenlerin öğretmenlerin akran zorbalığına ilişkin tutumları, kullandıkları baş etme stratejileri ve algıladıkları okul iklimi üzerinde önemli bir yordayıcı olduğunu göstermektedir (Şen & Doğan, 2021). "**This research** shows that various demographic variables are important predictors of teachers' attitudes towards peer bullying, the coping strategies they use, and the school climate they perceive."
24. *Bu makale*, 2011 ile 2017 arasında ESERA konferans bildirilerinde yayınlanan fen eğitimi ile ilgili araştırmalara yöneltilen açıklayıcı ve sistematik bir içerik analizi yaklaşımının sonuçlarını sunmaktadır (Alshamrani & Aldahmash, 2020). "**This article** presents the results of a descriptive and systematic content analysis approach directed at science education-related research published in ESERA conference proceedings between 2011 and 2017."

The inanimate DPs, such as *bu çalışma* "this study", *bu araştırma* "this research", and *bu makale* "this article", were found to act as agents of action in the corpora. Molino (2010) also supports the idea that the visibility or invisibility of authors in texts can be realized through impersonal rhetorical options, such as metonymic expressions functioning as "abstract rhetors" (e.g., this paper), in addition to other personal options. Interestingly, while Turkish authors highly prefer agentless passives, non-Turkish authors are significantly more inclined to use inanimate DPs, which act as agents of the action to refer to themselves implicitly (LL ratio: -7.38; p value < 0.01).

In addition to agentless passives and inanimate DPs as agents, the native and non-native authors in TRAs use animate DPs as agents to implicitly refer to themselves through self-mentions such as *araştırmacılar* "researchers" and *yazarlar* "authors", as illustrated in the following sentences from the corpus:

25. *Araştırmacılar*, elde edilen verileri daha sonra analiz edebilmek için elektronik verilere dönüştürüp SPSS'e girmiştir (Chang et al., 2015). "**The researchers** converted the obtained data into electronic data and entered them into SPSS to analyze them later."
26. *Bu kağıdın yazarları*, seçilen soru ve cevapları kendi aracına dahil etmek için K. Kopecky ve J. Pyżalski'nin onayını aldılar (Tomczyk & Waśniński, 2017). "**The authors of this paper** received approval from K. Kopecky and J. Pyżalski to include the selected questions and answers in their tool."
27. *Bu çalışmada ise yazarlar* matematiksel problem çözme, yöntemsel bileşenler ve matematiksel modelleme yeterliliğinin yapısını açığa çıkararak bu kısıtlılığı gidermiştir (Han & Kim, 2020). "In this study, **the authors** resolved this limitation by revealing the structure of mathematical problem solving, methodological components, and mathematical modeling competence."

These examples illustrate animate DP agents functioning as subjects in active voice constructions; however, animate agents can also be backgrounded through the use of passive voice, where they are expressed in *tarafından*-phrases (by-phrases) rather than occupying the subject position. In this respect, animate DPs as agents were realized in two ways: first, as subjects (e.g., *araştırmacılar* "the researchers"; *yazarlar* "the authors"), where they directly function as the subject in active constructions, as shown in Examples (25), (26), and (27); and second, as adjuncts in passives (e.g., *araştırmacılar tarafından bulunmuştur* "it has been found by the researchers"), where they occur in *tarafından*-phrases (by-phrases) functioning as agentive adjuncts rather than subjects, as illustrated in the following examples.

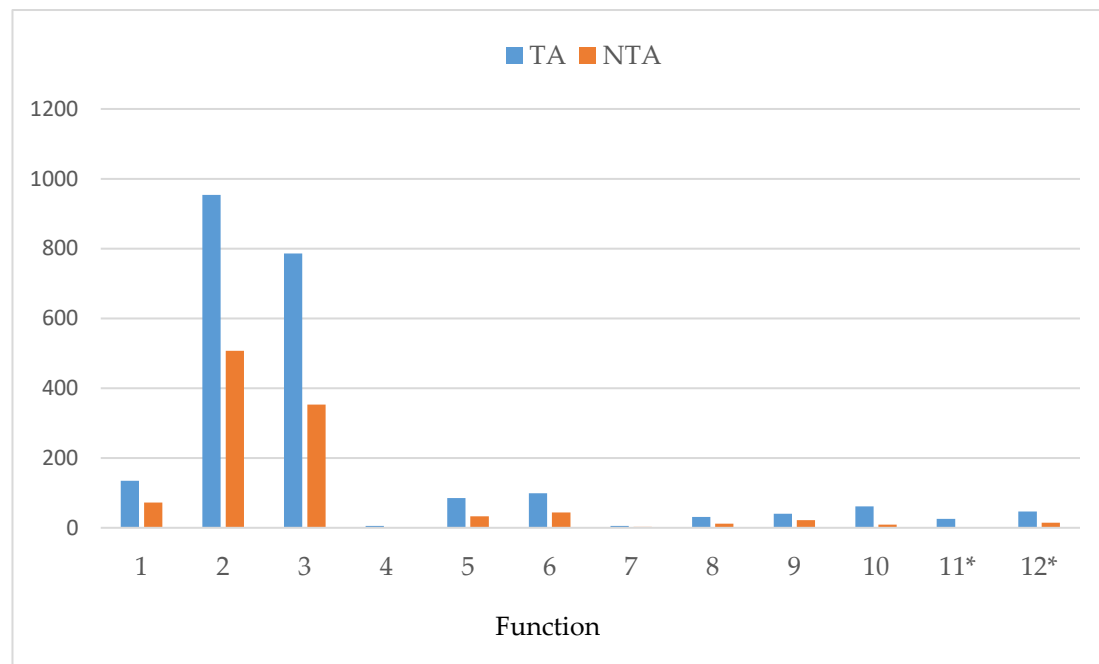
28. *Araştırmacılar tarafından*, tablet bilgisayarlarda çalışabilen bir yazılım programı özellikle bu araştırma için tasarlanmış ve geliştirilmiş olup, uygulama oturumlarında bu program kullanılmıştır (Eliçin & Tunalı, 2016). “A software program that can run on tablet computers was specifically designed and developed for this study **by the researchers**, and this program was used during the application sessions.”
29. Bu doğrultuda *araştırmacı tarafından* belirlenen öğrenme alanları ve yazılan kazanımlar kapsam geçerliğinin ve kazanımların uygunluğunun belirlenmesi amacıyla, alan ve program geliştirme uzmanlarına sunulmuştur (Bacakoğlu & Taş, 2020). “Accordingly, the learning domains identified and the objectives written **by the researcher** were presented to field and curriculum development experts in order to determine content validity and the appropriateness of the objectives.”

Animate DPs as agents are the least preferred category among the authorial references of implicit categories in the corpora. The authors refer to themselves implicitly through self-mentions such as *bu kağıdın yazarları* “the authors of this paper,” and *bu çalışmanın yazarları* “the authors of this study,” *araştırmacılar* “the researchers”, *araştırmacı* “the researcher” in their RAs. There is no significant difference between the two corpora in terms of animate DPs as agents.

In the above examples, inanimate DPs implicitly refer to the authors through self-mentions, typically occurring in the plural form. As previously noted, all the articles in the corpus are multi-authored; however, one further noteworthy point emerges in Example 29. In this case, the writers referred to themselves through the singular animate DP “the researcher.” Unlike the editorial *we* often found in single-authored texts, which functions as hedging, this construction downplays authorial presence and objectifies the research process. Therefore, this instance was coded as implicit self-mention, specifically functioning as authorial depersonalisation. This unusual choice may be explained by the fact that the article was derived from a thesis, where the singular “the researcher” is conventionally used, or by the possibility that one of the co-authors (e.g., the thesis writer) carried out the practical implementation of the study while others contributed in supervisory or supportive roles. This observation highlights how writers may strategically manipulate person reference to shape their visibility in discourse.

The implicit use of animate DPs as agents in academic writing is a crucial indicator of authorial presence. In line with this argument, Hyland (2002) explains that animate DPs such as “author” or “researcher” reflect a high degree of authorial involvement in the research. Furthermore, Peacock (2002) emphasizes that authors use these resources strategically to demonstrate to readers that they are taking responsibility for the research and actively participating in the scientific process. Biber et al. (1999) reveal that authors in different academic genres employ animate DPs with various realizations. In contrast, inanimate DPs are often preferred in academic writing, as this category provides a more objective, impersonal tone than animate DP. This way, the focus shifts away from the author and centers on the research process (Akbaş, 2014). In parallel, the studies by Kafes (2017) and Çandarlı et al. (2015) highlight that Turkish academic authors use animate DPs to emphasize their active involvement and personal responsibility in the research process. In conclusion, this study suggests that the authors of L1 and L2 Turkish RAs use animate DPs to make their voices more prominent, reinforce their direct engagement with scholarly work, and employ inanimate DPs to emphasize objectivity and professionalism in their writing.

As for the rhetorical functions of all these implicit authorial references, Figure 4 illustrates the functions of the implicit realizations of authorial reference, used in TA and NTA, along with their distributional patterns.



(Asterisks above the 11th and 12th functional categories indicate rhetorical functions identified in the corpus and added as new categories to the list of implicit self-mention functions).

Figure 4. Distribution of Rhetorical Functions of Implicit Authorial References in TA and NTAs

Figure 4 illustrates that both native and non-native Turkish authors explicitly refer to themselves to explain the procedures and present the findings of their studies. This demonstrates that, regardless of cultural background, authors often provide information about the methodology and conclusions of their research, which are critical components that capture readers' attention. Besides, both implicit and explicit authorial references are employed to discuss the procedures of both TA and NTA articles. This finding may be attributed to RAs being a distinct academic genre. These functions are followed by other rhetorical functions of implicit self-mentions, such as stating a goal/purpose, assessing the strength of their research, and showing the personal beliefs/ideas of the writers regarding the study in both corpora, from the most frequently used to the less frequent ones. The remaining functions are the least often deployed rhetorical functions in both corpora, such as making a claim/prediction, making suggestions, stating a hypothesis, an expectation, or a wish, and describing themselves.

In addition to the functions mentioned above, two other rhetorical functions related to implicit authorial references have been identified in both corpora. These are establishing intra-textual connections and leaving unresolved issues for future research. These findings suggest that native and non-native Turkish authors often implicitly refer to themselves and employ a range of rhetorical functions, including those that serve as discourse organizers. Table 7 reveals the log-likelihood results for the rhetorical functions of implicit authorial references in the TA and NTA corpora.

Table 7. Log-Likelihood Results for the Rhetorical Functions of Implicit Authorial References in L1 and L2 TRAs

Implicit authorial references Rhetorical functions	TA		NTA		LL ratio
	f	%	f	%	
Stating a goal/purpose	135	0.16	72	0.09	+13.92***
Explaining a procedure	954	1.12	507	0.66	+99.53****
Showing results/findings	786	0.93	353	0.46	+129.98****
Assessing the limitations of their research	5	0.01	1	0.00	+2.54
Showing the personal beliefs/ideas of the writers about the study	85	0.10	33	0.04	+19.01****
Assessing the strength of their research	99	0.12	44	0.06	+16.77****
Describing themselves	5	0.01	3	0.00	+0.33
Making a claim/prediction	31	0.04	12	0.02	+6.97**
Making suggestions	40	0.05	22	0.03	+3.72
Stating a hypothesis, an expectation, or a wish	61	0.07	9	0.01	+38.51****
*Establishing intra-textual connections	26	0.03	2	0.00	+24.03****
*Leaving unresolved issues for future research	47	0.06	15	0.02	+14.42***

Asterisks on the ratios indicate significance levels determined by the log-likelihood test.

= significant at $p < 0.01$ (log-likelihood > 6.63); *= significant at $p < 0.001$ (log-likelihood > 10.83); ****= significant at $p < 0.0001$ (log-likelihood > 15.13); f: observed frequency in the corpus; %: relative frequency in the text; + higher frequency in NTA compared to TA; - lower frequency in NTA compared to TA.

(The asterisk placed on the functional category indicates a rhetorical function identified in the corpus and newly added to the list of self-mention functions).

As summarized in Table 7, native and non-native Turkish authors exhibited different inclinations in applying rhetorical functions for implicit authorial references. The difference in their occurrence is significant across the TA and NTA corpora in various categories. More specifically, Turkish authors are more inclined to state their goals (LL ratio: +13.92; p value < 0.001), explain the procedure (LL ratio: +99.53; p value < 0.0001), show results/findings (LL ratio: +129.98; p value < 0.01), show their personal beliefs/ideas about the study (LL ratio: +19.01; p value < 0.0001), assess the strength of their research (LL ratio: +16.77; p value < 0.0001), make a claim/prediction (LL ratio: +6.97; p value < 0.01), to state a hypothesis, an expectation, or a wish (LL ratio: +38.51; p value < 0.0001), make of intra-textual connections (LL ratio: +24.03; p value < 0.0001), and leave unresolved issues for future research (LL ratio: -14.42; p value < 0.0001) with implicit authorial references. It is noteworthy to mention that implicit authorial references are used to employ more diverse rhetorical functions compared to explicit authorial references.

Below are examples from the corpus illustrating each rhetorical function that helps authors implicitly refer to themselves.

Stating a goal/purpose (Function 1)

30. *Bu çalışmada, anne çocuk ilişkileri ve baba tutumları ile okul öncesi eğitim kurumuna devam eden altı yaş çocuklarının ahlâki ve sosyal kural anlayışları arasındaki ilişkiyi incelemek amaçlanmıştır* (Özyürek & Şahin, 2015). "In this study, **it was aimed** to examine the relationship between mother-child relationships and father attitudes and the understanding of moral and social rules of six-year-old children attending pre-school education institutions."

Explaining a procedure (Function 2)

31. *Kodlar arasında bağlantı kurmak için bir alan analizi tekniği olan Spradley'nin (1980) Semantik İlişki Soruları Tekniği kullanılmıştır* (Chua & Chua, 2017). "To establish connections among the codes, Spradley's (1980) Semantic Relationship Questions Technique, a field analysis method, **was used**."

Showing results/findings (Function 3)

32. *Araştırmannın bulgularına bakıldığında 3'ü doğru madde 2'si nöromit olmak üzere 5 maddenin toplam 41 maddenin belirleyicisi olduğu bulunmuştur* (Novovic & Micanovic, 2020). "Considering the findings of the research, **it was found** that 5 items, 3 of which were true items and 2 of which were neuromyths, were determinants of a total of 41 items."

Assessing the limitations of their research (Function 4)

33. *Birincisi, bu araştırma sadece Yasouj şehrindeki lise öğrencileri ile gerçekleştirilmiştir* (Nikdel et al., 2021). "First, this research **was conducted only** with high school students in the city of Yasouj."

Showing the personal beliefs/ideas of the writers about the study (Function 5)

34. *Bu anlamda, izlemeye dayalı durum belirleme ve uygulamadaki sıklığıyla ilişkili değişkenlerin belirlenmesine yönelik bir araştırmanın yapılmasının hem Türkiye'deki hem de alanyazındaki uygulamalara katkı sağlayacağı düşünülmektedir* (Tavşancıl et al., 2017). "In this sense, **it is believed** that conducting a study aimed at identifying the variables related to observation-based assessment and its frequency of use in practice will contribute both to the practices in Türkiye and to the literature."

Assessing the strength of their research (Function 6)

35. *Okul yöneticilerinin ve yönetici adaylarının üniversitelerin Eğitim Yönetimi anabilim dalında, yüksek lisans eğitimi almalarının, okul yöneticiliğinin gerektirdiği kuramsal bilgilerin kazanılmasına önemli bir katkı sağlayacağı ifade edilebilir* (Sezer & Engin, 2020). "**It can be stated that** school administrators and administrator candidates receiving a master's degree in the Educational Administration department of universities **will make a significant contribution** to gaining the theoretical knowledge required by school administration."

Making a claim/prediction (Function 7)

36. *Özetle harmanlanmış öğrenme sürecinden geçen öğrencilerin akademik başarılarının daha yüksek olduğu iddia edilebilir* (Saritepeci & Çakır, 2015). "In summary, **it may be asserted** that students who experience the blended learning process tend to achieve higher academic success."

Making suggestions (Function 8)

37. *Ayrıca, Eğitim Bakanlığı'nın devlet üniversiteleri ile birlikte öğretmen adaylarının lider öğretmenler olmalarına yardımcı olacak lisansüstü sertifikalar veya yüksek lisans dersleri vermeleri önerilir* (Tahir et al., 2020). "**It is also recommended** that the Ministry of Education, together with public universities, offer postgraduate certificates or master's courses that will help prospective teachers become teacher leaders."

Stating a hypothesis, an expectation, or a wish (Function 9)

38. *Yedi yapı arasından İÖ ve PK değişkenlerinin aracı rolü oynadığı, öğrencilerin dört farklı aşamadaki (AN, PL, SA ve GD) kabiliyetlerinin etkisini matematiksel problem çözme becerisine dönüştürdüğü varsayılmıştır* (Han & Kim, 2020). "Among the seven structures, **it was assumed** that the variables TL and PK played a mediating role and transformed the effect of students' abilities at four different stages (AN, PL, SA and GD) into mathematical problem solving skills."

*Leaving unresolved issues for future research (Function 10)

39. *Ancak bu eksikliklerin yapılacak bazı düzenlemelerle giderilebileceği söylenebilir* (Çakmak et al., 2022). "However, **it can be said** that these deficiencies can be eliminated with some arrangements."

* Establishing intra-textual connections (Function 11)

40. Öğretmenin örnek sınıf içi uygulamaları **aşağıda** sırasıyla **sunulmuştur** (Kanyılmaz & Yücel, 2020).
“Sample classroom practices of the teacher **are presented below** in order.”

41. *Sonraki bölümlerde, matematiksel yeterlik çalışmasına ait çerçeve, kullanılan yöntem, sonuçların tartışması ve bazı son çıkarımlar **sunulacaktır*** (Romero et al., 2015). “**In the following sections**, the framework of the mathematical proficiency study, the method used, a discussion of the results and some final conclusions **will be presented.**”

While implicit rhetorical functions (1-10) are more directly related to the research content, establishing intra-textual connections (Function 11) are linked to the organizational structure of the research article. These functions help authors connect different parts of the text by referring to preceding or upcoming sections and thereby establishing intra-textual connections. In this respect, the function of stating a goal, which explicitly declares the purpose of the research, differs from the function of establishing intra-textual connections. For example, sentence (41) provides information about what will appear in the subsequent sections of the article. Although the future tense is used, which might resemble the statement of a research goal, the sentence does not declare an objective related to the study itself. Instead, it functions as an intra-textual connection by guiding the reader through the article's structure and linking its sections together.

Conclusion

This article examines how native Turkish authors and non-native Turkish authors use authorial self-mention expressions in their TRAs. To achieve this, the researcher analyzes a wide range of self-referential expressions, particularly explicit and implicit authorial references in L1 and L2 multi-authored TRAs within the same journal, across three dimensions: realizations, rhetorical functions, and their distributions within and across corpora. Drawing on this analysis, this study combines qualitative and quantitative approaches by integrating in-depth textual analysis with frequency and log-likelihood analyses to examine the visibility of authorial stance and the rhetorical strategies employed by TAs and NTAs.

The corpus-based and corpus-driven investigation reports similarities and differences between TA and NTA corpora regarding the implicit and explicit use of authorial references. Firstly, the researcher aims to reveal the distributional patterns of overall explicit and implicit self-mentions in both corpora. The analysis shows that TAs and NTAs employ significantly more implicit authorial references than explicit ones. On the other hand, when compared to the NTA corpus, TAs tend to conceal themselves with significantly fewer explicit authorial references and significantly more implicit authorial references. Secondly, this study argues the possible causes of the similarities and differences. The similarities between native and non-native corpora can be attributed to the authors' awareness of register and genre-related language use. More specifically, writers are aware of the specific communicative functions of self-mention elements and cannot avoid projecting an impression of themselves. The differences, on the other hand, can be attributed to the writers' culturally shaped epistemologies, their relationships with the community, and their broader sense of self, all of which can influence their decisions to engage with their texts.

The similarities and differences become apparent when analyzing explicit and implicit authorial references in detail, particularly concerning grammatical forms and rhetorical functions. The third and fourth questions aimed to answer how academic authors of L1 and L2 TRAs construct explicit and implicit authorial references concerning the grammatical forms and rhetorical functions. The analysis revealed that Turkish and non-native authors projected themselves through explicit and implicit authorial self-mention expressions, exhibiting various rhetorical functions and similar distributional patterns within each corpus. First-person plural suffixes and pronouns serve as explicit authorial references, while agentless passives, animate DPs as agents, and inanimate DPs as agents function as implicit authorial references, with similar distributional patterns observed in the corpora. In addition,

a variety of rhetorical functions such as stating a goal/purpose, explaining a procedure, showing results/findings, assessing the limitations of their research, showing results/findings, assessing the limitations of their research, showing the personal beliefs/ideas of the writers about the study, assessing the strength of their research, making a claim/prediction, making suggestions, stating a hypothesis, an expectation, or a wish and establishing intra-textual connections were used for both implicit and explicit authorial references. In addition, both native Turkish authors and non-native Turkish authors were found to implicitly reference themselves to leave unresolved issues for future research. Moreover, both corpora display similar distributional patterns of these functions. In particular, explicit and implicit references are frequently used to explain procedures, whereas less attention is given to functions such as assessing the strengths and limitations of their studies or making suggestions. It could be argued that the research article is not a modest, self-effacing genre devoid of writer presence; rather, it is a space where writers strategically position themselves and consciously employ authorial self-mentions in their texts.

The significant differences between two corpora, such as the overuse of grammatical forms and the rhetorical functions of explicit authorial references by NTAs when compared to TAs, the overuse of implicit authorial references by TAs, and the notable differences among all the sub-categories of realizations of implicit and explicit self-mentions and their rhetorical functions, may arise from cultural background, personal preference, prescriptive education, the influence of the English language that promotes explicit references, readers' status in their discourse community, and more. Upon closer examination, it can be argued that the stronger tendency of non-native Turkish authors to make themselves more visible than native Turkish authors may be attributed to the dominance of English as the global lingua franca in academic communication and research. The limited use of explicit authorial self-mention words by TAs could also reflect culture-specific views of authority, primarily influenced by Turkish culture's emphasis on modesty.

Overall, this study revealed the nature of academic discourse by identifying genre-based similarities within and across the two corpora, as well as differences shaped by linguistic and cultural backgrounds and preferences. The findings indicate that Turkish academic writing practices tend to prioritize objectivity while reflecting cultural values of modesty and collective identity. In contrast, L2 Turkish academic writing, though influenced by Turkish cultural conventions, promotes a more direct and visible authorial stance that underscores the individualistic dimension of academic discourse. These results support the view that academic writing encompasses not only the communication of ideas but also the expression and projection of authorial identity.

As this study is based on a limited number of RAs, it would be advisable to conduct more comprehensive research on the realizations and rhetorical functions of self-mentions in order to capture their full range. For example, the animate and inanimate determiner phrases (DPs) identified as agentive in this study may also function as experiencers in a more comprehensive investigation (e.g., *This result affected the researchers*). Therefore, by employing a larger corpus or conducting analyses across different academic genres, a more detailed analytical framework could be developed to reveal self-mention patterns more comprehensively. As the corpus of this study includes all sections of research articles, the authors employed self-mentions to explain their research procedures through both implicit and explicit references. A further study could examine the cross-sectional use of self-mention and its rhetorical functions in greater depth. While the present study identified all occurrences of self-mentions and their rhetorical functions, it did not focus on any specific category. Future research is therefore recommended to explore agentless passives as realizations of self-mention and to analyze the rhetorical roles of each passive suffix functioning as an implicit authorial reference.

Before conducting the study, interviewing non-native Turkish authors would be a plausible way to determine their native languages and whether the articles were originally written by them or translated from another language. Such information would enable a more informed discussion of the influence of their native languages, as well as the potential impact of translation processes. In this regard, L2 Turkish authors, for instance, might be limited to those with a single native language, such as English, who write in Turkish as a second language. Accordingly, further L2 research is needed to investigate the possible reasons behind the observed similarities and differences from both cross-linguistic and cross-cultural perspectives. Moreover, systematic comparisons with L1 Turkish research articles would provide valuable insights into how L2 Turkish authors explicitly or implicitly present themselves in relation to L1 Turkish academic writing.

This research provides valuable insights into the cultural and linguistic factors that shape academic writing. More specifically, it can guide researchers on how and when to use explicit or implicit authorial references in accordance with the expectations of their target audiences. It may also have pedagogical implications for educators, encouraging the teaching of self-reference and metadiscourse. By incorporating rhetorical and linguistic features into academic writing courses for students, educators can raise awareness of authorial identity and its rhetorical functions in academic writing. By developing this awareness, educators can help learners adapt to the norms of various academic communities in both L1 and L2 contexts. In this regard, promoting cross-cultural collaboration and peer review within diverse academic environments can foster a deeper understanding of self-reference and its rhetorical functions, ultimately equipping students to write more proficiently in both their L1 and L2 academic settings. Additionally, incorporating genre-specific training can help students recognize when and how to use self-mention according to the conventions of distinct academic genres. This knowledge will empower students to navigate academic expectations more effectively and improve their writing in both contexts. Furthermore, integrating digital tools or AI-powered feedback systems that focus on self-mention use in academic writing could provide instant, personalized feedback, helping students adapt their writing strategies. Therefore, this study advances academic writing practices by assisting students and researchers in developing the flexibility to adjust their writing strategies to varied linguistic and cultural contexts while guiding them in striking a balance between authority and neutrality in their texts.

To better support the educational activities of the journal *Eğitim ve Bilim* and its goal of advancing the academic development of researchers, this study not only aligns with the journal's mission by emphasizing the importance of understanding author presence in both L1 and L2 academic writing but also offers practical guidance to enhance comprehensibility and interaction by highlighting how the findings can benefit both native and non-native Turkish writers.

References

- Abdollahzadeh, E. (2011). Poring over the findings: Interpersonal authorial engagement in applied linguistics papers. *Journal of Pragmatics*, 43(1), 288-297. <https://doi.org/10.1016/j.pragma.2010.07.019>
- Ädel, A. (2006). *Metadiscourse in L1 and L2 English*. John Benjamins Publishing. <https://doi.org/10.1075/scl.24>
- Akbaş, E. (2014). Are they discussing in the same way? Interactional metadiscourse in Turkish writers' texts. In A. Łyda & K. Warchał (Eds.), *Occupying niches: Interculturality, cross-culturality and aculturality in academic research* (pp. 119-133). Springer. https://doi.org/10.1007/978-3-319-02526-1_8
- Akbaş, E., & Hardman, J. (2017). An exploratory study on authorial (in)visibility across postgraduate academic writing: Dilemma of developing a personal and/or impersonal authorial self. In C. Hatipoglu, E. Akbaş, & Y. Bayyurt (Eds.), *Metadiscourse in written genres: Uncovering textual and interactional aspects of texts* (pp.139-174). Peter Lang.
- Akbaş, E., Dağdeviren-Kirmizi, G., & Kirmizi, Ö. (2024). "Here, we investigate if there is...": A functional investigation of self-mentions in research article abstracts. *Chinese Journal of Applied Linguistics*, 47(2), 196-218. <https://doi.org/10.1515/CJAL-2024-0203>
- *Alshamrani, S. M., & Aldahmash, A. H. (2020). A systematic review of research articles on science education published in the ESERA proceedings from 2011 to 2017. *Education and Science*, 45(202), 1-16. <https://doi.org/10.15390/EB.2020.8441>
- Anthony, L. (2020). *AntConc* (Version 4.2.0) [Computer software]. Waseda University, Tokyo. <https://www.laurenceanthony.net/software/antconc/>
- *Ateş, A., & Ünal, A. (2022). Roma mothers' experiences with their children's schools. *Education and Science*, 45(210), 299-319. <https://doi.org/10.15390/EB.2022.11176>
- *Bacakoğlu, T. Y., & Taş, İ. D. (2020). The impact of immediate vicinity training on academic success and environmental attitudes of the fourth graders in the primary school. *Education and Science*, 45(203), 27-44. <https://doi.org/10.15390/EB.2020.8521>
- Bal-Gezegin, B. (2016). A corpus-based investigation of metadiscourse in an academic book. *Procedia-Social and Behavioral Sciences*, (232), 713-718. <https://doi.org/10.1016/j.sbspro.2016.10.097>
- Basal, A., & Bada, E. (2012). Use of first-person pronouns: A corpus-based study of journal articles. *Energy Education Science and Technology Part B-Social and Educational Studies*, 4(3), 1777-1788.
- Bayyurt, Y. (2010). Author positioning in academic writing. In S. Zyngier and V. Viana (Eds.), *Appraisals and perspectives: Mapping empirical studies in the Humanities* (pp. 163-184). The Federal University of Rio de Janeiro.
- Belcher, D. D. (2007). Seeking acceptance in an English-only research world. *Journal of Second Language Writing*, 16(1), 1-22. <https://doi.org/10.1016/j.jslw.2006.12.001>
- Biber, D., Conrad, S., Reppen, R., & Leech, G. (1999). Corpus linguistics: Investigating language structure and use. *International Journal of Corpus Linguistics*, 4(1), 185-188. <https://doi.org/10.1075/ijcl.4.1.11lee>
- Boshrabadi, A. M., Biria, R., & Zavari, Z. (2014). A cross-cultural analysis of textual and interpersonal metadiscourse markers: The case of economic articles in English and Persian newspapers. *Advances in Language and Literary Studies*, 5(2), 59-66. <https://doi.org/10.7575/aiac.all.v.5n.2p.59>
- Carcu, O. M. (2009). An intercultural study of first-person plural references in biomedical writing. *Ibérica, Revista de la Asociación Europea de Lenguas para Fines Específicos*, (18), 71-92.
- *Chang, M., Lachance, D., Lin, F., Al-Shamali, F., & Chen, N. S. (2015). Enhancing orbital physics learning performance through a hands-on kinect game. *Education and Science*, 40(180), 1-12. <https://doi.org/10.15390/EB.2015.3145>

- Chang, Y-Y., & Swales, J. (1999). Informal elements in English academic writing: Threats or opportunities for advanced non-native speakers? In C. Candlin & K. Hyland (Eds.), *Writing: Texts, processes, and practices* (pp.145-167). Longman. <https://doi.org/10.4324/9781315840390-8>
- Chen, R. (2020). Single author self-reference: Identity construction and pragmatic competence. *Journal of English for Academic Purposes* (45), 100856. <https://doi.org/10.1016/j.jeap.2020.100856>
- *Chua, Y. P., & Chua, Y. P. (2017). Developing a grounded model for educational technology leadership practices. *Education and Science*, 42(189), 73-84. <https://doi.org/10.15390/EB.2017.6705>
- *Çakmak, Z., Akgün, İ. H., & Kaçar, T. (2022). Social studies teachers' views on the 7th grade social studies teacher guidebook and its removal: A Q method analysis. *Education and Science*, 47(210), 217-238. <https://doi.org/10.15390/EB.2022.10897>
- Çandarlı, D., Bayyurt, Y., & Martı, L. (2015). Authorial presence in L1 and L2 novice academic writing: Cross-linguistic and cross-cultural perspectives. *Journal of English for Academic Purposes*, (20), 192-202. <https://doi.org/10.1016/j.jeap.2015.10.001>
- Doğan-Uçar, A., & Akbas, E. (2022). A corpus-driven cross-disciplinary study of inclusive and exclusive “we” in research article abstracts. *LEARN Journal: Language Education and Acquisition Research Network*, 15(1), 180-204.
- Dontcheva-Navrátilová, O. (2013). Authorial presence in academic discourse: Functions of author-reference pronouns. *Linguistica Pragensia*, 23(1), 9-30.
- Dontcheva-Navratilova, O. (2018). Intercultural and interdisciplinary variation in the use of epistemic lexical verbs in linguistics and economics research articles. *Linguistica Pragensia*, 28(2), 154-167.
- *Eliçin, Ö., & Tunalı, V. (2016). Effectiveness of tablet computer use in achievement of schedule-following skills by children with autism using graduated guidance. *Education and Science*, 41(183), 29-46. <https://doi.org/10.15390/EB.2016.5358>
- Esmer, E. (2018). Türkçeyi yabancı dil olarak öğrenen öğrenciler tarafından üretilen ikna metinlerinde üstsöylem belirleyicilerinin kullanımı. *Dil Eğitimi ve Araştırmaları Dergisi*, 4(3), 216-228. <https://doi.org/10.31464/jlere.292927>
- Flowerdew, J., & Wang, S. H. (2015). Identity in academic discourse. *Annual Review of Applied Linguistics*, (35), 81-99. <https://doi.org/10.1017/S026719051400021X>
- Göksel, A., & Kerslake, C. (2005). *Turkish: A comprehensive grammar*. Routledge. <https://doi.org/10.4324/9780203340769>
- Göksel, A., & Kerslake, C. (2011). *Turkish: An essential grammar*. Routledge.
- Güçlü, R. (2024). Yabancılar Türkçe öğretimi ders kitaplarında “ben” ve “biz”: Bir üstsöylem çözümlemesinde kültürel yansımalar. *Türkbilig*, 2024(48), 141-176. <https://doi.org/10.59257/turkbilig.1451198>
- Güçlü, R. (2025). The use of metadiscourse markers in L2 Turkish opinion texts by native Albanian students. *International Journal of Turkish Teaching Research*, 5(2), 288-316.
- *Gülsün, Y., & Köseoğlu, P. (2020). Determining biology teachers' neuromyths and knowledge about brain functions. *Education and Science*, 45(204), 303-316. <https://doi.org/10.15390/EB.2020.8456>
- *Han, S., & Kim, H. M. (2020). Components of mathematical problem solving competence and mediation effects of instructional strategies for mathematical modeling. *Education and Science*, 45(202), 93-111. <https://doi.org/10.15390/EB.2020.7386>
- Harwood, N. (2005). ‘Nowhere has anyone attempted... In this article, I aim to do just that: A corpus-based study of self-promotional I and we in academic writing across four disciplines. *Journal of Pragmatics*, 37(8), 1207-1231. <https://doi.org/10.1016/j.pragma.2005.01.012>
- Hyland, K. (1996). Writing without conviction? Hedging in science research articles. *Applied Linguistics*, 17(4), 433-454. <https://doi.org/10.1093/applin/17.4.433>

- Hyland, K. (1999). Academic attribution: Citation and the construction of disciplinary knowledge. *Applied Linguistics*, 20(3), 341-367. <https://doi.org/10.1093/applin/20.3.341>
- Hyland, F. (2000). ESL writers and feedback: Giving more autonomy to students. *Language Teaching Research*, 4(1), 33-54. <https://doi.org/10.1177/136216880000400103>
- Hyland, K. (2001a). Bringing in the reader: Addressee features in academic articles. *Written Communication*, 18(4), 549-574. <https://doi.org/10.1177/0741088301018004005>
- Hyland, K. (2001b). Humble servants of the discipline? Self-mention in research articles. *English for Specific Purposes*, 20(3), 207-226. [https://doi.org/10.1016/S0889-4906\(00\)00012-0](https://doi.org/10.1016/S0889-4906(00)00012-0)
- Hyland, K. (2002). Authority and invisibility: Authorial identity in academic writing. *Journal of Pragmatics*, 34(8), 1091-1112. [https://doi.org/10.1016/S0378-2166\(02\)00035-8](https://doi.org/10.1016/S0378-2166(02)00035-8)
- Hyland, K. (2003). Self-citation and self-reference: Credibility and promotion in academic publication. *Journal of the American Society for Information Science and Technology*, 54(3), 251-259. <https://doi.org/10.1002/asi.10204>
- Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. Continuum.
- Işık-Taş, E. E. (2018). Authorial identity in Turkish and English language research articles in Sociology: The role of publication context in academic writers' discourse choices. *English for Specific Purposes*, (49), 26-38. <https://doi.org/10.1016/j.esp.2017.10.003>
- Ivanič, R. (1998). *Writing and identity*. John Benjamins. <https://doi.org/10.1075/swll.5>
- Jalilifar, A. R. (2011). World of attitudes in research article discussion sections: A cross-linguistic perspective. *Journal of Technology and Education*, 5(3), 177-186.
- Kafes, H. (2017). Citation practices among novice and expert academic writers. *Education and Science*, 42(192), 441-462. <https://doi.org/10.15390/EB.2017.6317>
- Kan, M. O. (2016). The use of interactional metadiscourse: A comparison of articles on Turkish education and literature. *Educational Sciences: Theory and Practice*, 16(5), 1639-1648.
- *Kanyılmaz, B. M., & Yücel, E. Ö. (2020). The evaluation of teachers' in-class practices and opinions for developing analytical thinking skill of primary school students in the course of science. *Education and Science*, 45(204), 23-39. <https://doi.org/10.15390/EB.2020.8876>
- Karahan, P. (2013). Self-mention in scientific articles written by Turkish and non-Turkish authors. *Procedia-Social and Behavioral Sciences*, (70), 305-322. <https://doi.org/10.1016/j.sbspro.2013.01.068>
- Kornfilt, J. (1996). On copular clitics in Turkish. *ZAS Papers in Linguistics*, (6), 96-114. <https://doi.org/10.21248/zaspil.6.1996.762>
- *Köysüren, D. A., & Deryakulu, D. (2017). Effects of changes in educational policies on the emotions of ICT teachers. *Education and Science*, 42(190), 67-87. <https://doi.org/10.15390/EB.2017.6991>
- Kuhi, D., Tofigh, M., & Babaie, R. (2013). Writers' self-representation in academic writing: The case of computer engineering research articles by English versus Iranian writers. *International Journal of Research Studies in Language Learning*, 2(3), 35-48. <https://doi.org/10.5861/ijrsl.2012.164>
- Kuo, A. D. (1999). Stabilization of lateral motion in passive dynamic walking. *The International Journal of Robotics Research*, 18(9), 917-930. <https://doi.org/10.1177/02783649922066655>
- Lee, J. J., & Casal, J. E. (2014). Metadiscourse in results and discussion chapters: A cross-linguistic analysis of English and Spanish thesis writers in engineering. *System*, (46), 39-54. <https://doi.org/10.1016/j.system.2014.07.009>
- Lorés-Sanz, R. (2011). The construction of the author's voice in academic writing: The interplay of cultural and disciplinary factors. *Text and Talk*, 31(2), 173-193. <https://doi.org/10.1515/text.2011.008>
- Luzón, M. J. (2009). The use of we in a learner corpus of reports written by EFL Engineering students. *Journal of English for Academic Purposes*, 8(3), 192-206. <https://doi.org/10.1016/j.jeap.2009.04.001>

- Martínez, I. A. (2005). Native and non-native writers' use of first person pronouns in the different sections of biology research articles in English. *Journal of Second Language Writing*, 14(3), 174-190. <https://doi.org/10.1016/j.jslw.2005.06.001>
- Mauranen, A. (1993). *Cultural differences in academic rhetoric: A text linguistic study*. Peter Lang.
- Mauranen, A., Pérez-Llantada, C., & Swales, J. M. (2020). Academic Englishes: A standardized knowledge?. In A. Kirkpatrick & R. Sussex (Eds.), *The Routledge handbook of world Englishes* (pp. 659-676). Routledge. <https://doi.org/10.4324/9781003128755-45>
- Mirshamsi, A. S., & Allami, H. (2013). Metadiscourse markers in the discussion/conclusion section of Persian and English master's theses. *Journal of Teaching Language Skills*, 32(3), 23-40.
- Molino, A. (2010). Personal and impersonal authorial references: A contrastive study of English and Italian Linguistics research articles. *Journal of English for Academic Purposes*, 9(2), 86-101. <https://doi.org/10.1016/j.jeap.2010.02.007>
- Muñoz, M. C. (2013). The "I" in interaction: authorial presence in academic writing. *Revista De Lingüística Y Lenguas Aplicadas*, (8), 49-58. <https://doi.org/10.4995/rlyla.2013.1162>
- Mur-Dueñas, P. M. (2007). 'I/we focus on...': A cross-cultural analysis of self-mentions in business management research articles. *Journal of English for Academic Purposes*, 6(2), 143-162. <https://doi.org/10.1016/j.jeap.2007.05.002>
- Mur-Dueñas, P. (2011). An intercultural analysis of metadiscourse features in research articles written in English and Spanish. *Journal of Pragmatics*, 43(12), 3068-3079. <https://doi.org/10.1016/j.pragma.2011.05.002>
- *Nikdel, F., Jokar, A., & Noshadi, N. (2021). Perceptions of classroom environment, satisfaction of basic psychological needs, and academic emotions: The mediating role of basic psychological needs. *Education and Science*, 46(208), 279-291. <https://doi.org/10.15390/EB.2021.9812>
- *Novovic, T., & Micanovic, V. (2020). Fears in early childhood in the views of children and preschool teachers in preschool institutions. *Education and Science*, 45(204), 185-206. <https://doi.org/10.15390/EB.2020.7753>
- *Özyürek, A., & Şahin, F. T. (2015). Anne-çocuk ilişkisinin ve baba tutumlarının çocukların ahlaki ve sosyal kural anlayışları üzerine etkisi. *Education and Science*, 40(177), 161-174. <https://doi.org/10.15390/EB.2015.3672>
- Peacock, M. (2002). Communicative moves in the discussion section of research articles. *System*, 30(4), 479-497. [https://doi.org/10.1016/S0346-251X\(02\)00050-7](https://doi.org/10.1016/S0346-251X(02)00050-7)
- *Romero, I. M., del Mar García, M., & Codina, A. (2015). Developing mathematical competencies in secondary students by introducing dynamic geometry systems in the classroom. *Education and Science*, 40(177), 43-58. <https://doi.org/10.15390/EB.2015.2640>
- Rongen Breivega, K., Dahl, T., & Fløttum, K. (2002). Traces of self and others in research articles. A comparative pilot study of English, French, and Norwegian research articles in medicine, economics, and linguistics. *International Journal of Applied Linguistics*, 12(2), 218-239. <https://doi.org/10.1111/1473-4192.00032>
- *Safran, J., Volarov, M., & Oljaca, M. (2020). Serbian version of foreign language classroom anxiety scale: Psychometric analysis. *Education and Science*, 45(204), 371-381. <https://doi.org/10.15390/EB.2020.7826>
- *Saritepeci, M., & Çakır, H. (2015). The effect of blended learning environments on student's academic achievement and student engagement: A study on social studies course. *Education and Science*, 40(177), 203-216. <https://doi.org/10.15390/EB.2015.2592>
- *Sezer, Ş., & Engin, G. (2020). School principals' views on selecting, training and appointment of administrator for schools: A case study. *Education and Science*, 46(206), 263-280. <https://doi.org/10.15390/EB.2020.9621>

- Sheldon, E. (2009). From one I to another: Discursive construction of self-representation in English and Castilian Spanish research articles. *English for Specific Purposes*, 28(4), 251-265. <https://doi.org/10.1016/j.esp.2009.05.001>
- Solsun, A., & Akbaş, E. (2022). Establishing authorial presence by the exclusive-we: A functional approach to self-mentions in engineering research articles. *Participatory Educational Research*, 9(3), 281-295. <https://doi.org/10.17275/per.22.66.9.3>
- *Su, X., Huang, X., Zhou, C., & Chang, M. (2017). A technological pedagogical content knowledge (TPACK) scale for geography teachers in senior high school. *Education and Science*, 42(190), 325-341. <https://doi.org/10.15390/EB.2017.6849>
- Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press.
- *Şen, Z., & Doğan, A. (2021). An examination of teachers' attitudes towards bullying, their coping strategies for handling bullying, and perceived school climate. *Education and Science*, 46(207), 43-62. <https://doi.org/10.15390/EB.2021.8942>
- *Tahir, L. M., Musah, M. B., Al-Hudawi, S. H. V., & Daud, K. (2020). Becoming a teacher leader: Exploring Malaysian in-service teachers' perceptions, readiness and challenges. *Education and Science*, 45(202), 283-310. <https://doi.org/10.15390/EB.2020.7362>
- Tang, R. (2006). Addressing self-representation in academic writing in a beginners' EAP classroom. *Journal of Language and Learning*, 5(2), 76-85.
- Tang, R., & John, S. (1999). The 'I' in identity: Exploring writer identity in student academic writing through the first person pronoun. *English for Specific Purposes*, 18(1), S23-S39. [https://doi.org/10.1016/S0889-4906\(99\)00009-5](https://doi.org/10.1016/S0889-4906(99)00009-5)
- Tarcan, Ö. (2019). *Sosyal bilimler alanında yazılan Türkçe bilimsel metinlerde kullanılan üstsöylem belirleyicileri* (Thesis No. 558309) [Doctoral dissertation, Ankara University]. Council of Higher Education Thesis Center.
- *Tavşancıl, E., Altıntaş, Ö., & Ayan, C. (2017). An investigation of the Programme for International Student Assessment 2012 in terms of formative assessment use: Turkey example. *Education and Science*, 42(190), 237-248. <https://doi.org/10.15390/EB.2017.4874>
- *Tomczyk, Ł., & Waśniński, A. (2017). Parents in the process of educational impact in the area of the use of new media by children and teenagers in the family environment. *Education and Science*, 42(190), 305-323. <https://doi.org/10.15390/EB.2017.4674>
- Underhill, R. (1979). *Turkish grammar*. Massachusetts Institute of Technology.
- Walková, M. (2019). A three-dimensional model of personal self-mention in research papers. *English for Specific Purposes*, (53), 60-73. <https://doi.org/10.1016/j.esp.2018.09.003>
- Webb, C. (1992). Using the first person in academic writing: Objectivity, language and gatekeeping. *Journal of Advanced Nursing*, 17(6), 747-752. <https://doi.org/10.1111/j.1365-2648.1992.tb01974.x>
- Wu, G., & Zhu, Y. (2014). Self-mention and authorial identity construction in English and Chinese research articles: A contrastive study. *Linguistics and the Human Sciences*, 10(2), 133-158. <https://doi.org/10.1558/lhs.v10i2.28557>
- *Xie, S., Zeng, S., Liu, L., Wei, H., Xu, Y., & Lu, X. (2022). Predicting geospatial thinking ability for secondary school students based on the decision tree algorithm in mainland China. *Education and Science*, 47(210), 121-137. <https://doi.org/10.15390/EB.2022.10367>
- Yakhontova, T. (2006). Cultural and disciplinary variation in academic discourse: The issue of influencing factors. *Journal of English for Academic Purposes*, 5(2), 153-167. <https://doi.org/10.1016/j.jeap.2006.03.002>
- Yang, C. (2009). A comparative study of metadiscourse in English and Chinese academic book reviews. *Journal of Changchun University of Science and Technology*, 22(6), 942-945. https://caod.oriprobe.com/articles/17843284/A_Comparative_Study_of_Metadiscourse_in_English_an.htm

- *Yurtbakan, E., Erdoğan, Ö., & Erdoğan, T. (2020). Impact of dialogic reading on reading motivation. *Education and Science*, 46(206), 161-180. <https://doi.org/10.15390/EB.2020.9258>
- *Zeljić, M., Boričić, M. D., & Maričić, S. (2021). Problem solving in realistic, arithmetic/algebraic and geometric context. *Education and Science*, 46(208), 413-430. <https://doi.org/10.15390/EB.2021.8887>



Historical evolution of the regional understanding of geography curricula: tradition and change

Bahaddin Şahin ¹

Abstract

Geography curricula (GCs) are expected to constantly undergo renewal and development, not only in terms of pedagogical strategies and didactic applications but also regarding the evolution of disciplinary thought. A review of the literature reveals a significant research gap, as there is no existing study explicitly focusing on the relationship between academic geography and geography education, particularly exploring how the epistemological evolution of geography is reflected in GCs. Hence, this area presents extensive opportunities for research. The present study aims to investigate the historical transformation of the concept of "region" within GCs implemented in Türkiye from the early Republican period to the present day, through the lens of shifting paradigms influenced by the evolution of geographical thought. The study adopts a qualitative historical research design. Primary data sources for the study consist of GCs put into place since 1924, while secondary sources comprise minutes and reports from the First Geography Congress held in 1941 under the leadership of the Ministry of National Education at the time. The study data were collected by document analysis technique using a data collection form. Following an extensive literature review, the approaches that significantly influenced geographical thought over the past century were categorized according to their periods of impact on the discipline. A descriptive analysis of the data collected was then conducted based on these predefined categories.

Accordingly, when considering the paradigms that have been influential in the history of geographical thought, the regional understanding of GCs implemented from the early Republican period to the present day is divided into three periods: 1924-1941, 1942-2004, and 2005-2024. Although the traditional regional geography approach was dominant in the discipline until the mid-20th century, there was no regional content in the GC implemented between 1924 and 1941. However, during this period, there were problems arising from the use of different regional classifications in practice. This situation was the main factor in the convening of the First Geography Congress in 1941 and in the decision to adopt the teaching of the geography of Türkiye based on seven geographical regions. This understanding of the region, which was contemporary at the time of its creation, continued to be the

Keywords

Region
Regional geography
Geographical thought
Geography curriculum
Geography education
Historical research

Article Info

Received: 03.14.2024
Accepted: 06.03.2025
Published Online: 10.30.2025

DOI: 10.15390/ES.2025.2496

¹ Keçiören Science and Art Center, Ministry of National Education, Ankara, Türkiye, bahaddinsahin@gmail.com

dominant understanding in all GC administered in the period 1942-2005, despite the fact that the traditional regional geography approach lost its influence on the discipline with the quantitative revolution in the second half of the 20th century. Therefore, this holistic and static regional understanding, which was predominantly formed according to natural features, had sharp boundaries between regions but did not take much account of interactions and connections, and possessed a homogeneous structure, dominated the GCs for a considerably long period. Both the strong criticism of positivism in the discipline since the early 1970s and the new regional geographical discourses that emerged in the early 1980s led to a new understanding of the region after the quantitative revolution. Along with these intellectual developments in academic geography, various reports and declarations underlining the place of the region in geography education have been published by international geography associations and the region has been considered as one of the five main themes of geography education. Long after these developments, only with the 2005 GC, the traditional regional understanding was abandoned, and a dynamic regional understanding was adopted where regional boundaries are not sharp, can change over time, different regions can be formed with criteria determined according to purpose, and intra-regional differences are emphasized. The 2005 GC's modern understanding of regions was finalized with the regional classification envisaged by the 2018 GC. Thus, it is observed that in Türkiye, the failure to follow the approaches that emerged in the discipline in the history of geographical thought in academic geography as well as in school-based geography education, especially after the second half of the 20th century, has caused a contemporary understanding of the region to be reflected in GC with a considerable delay.

Introduction

Throughout the history of geographical thought, the evolution of the understanding of region took place in a dynamic and ever-changing process, much like the discipline itself. The concept of region has taken on different meanings in different periods and its role in geographical thought has been constantly reshaped. Conceptions of region have transformed depending on the philosophical and methodological tendencies of the period, and have occasionally been placed at the center of research or pushed to the periphery of the discipline. This evolution, which extends from the boundaries of physical geography to a broad perspective that includes social and cultural interactions, also reflects the development of geography as an interdisciplinary science (Paasi, 1991). This transitional process of the understanding of region in the history of geographical thought plays a key role in understanding how geography has turned into a field of scientific inquiry. This change has enabled geography to comprehensively address how geography shapes and interprets not only physical spaces but also social structures, cultural practices and economic dynamics (Gilbert, 1988). Consequently, the understanding and use of region has expanded over time, contributing significantly to the enrichment of geographical thinking and methodology. This shift can be seen as a reflection of geography's effort to understand and interpret the world from a multidimensional perspective (Peet, 1998). In this context, it is challenging to explain the development of regional understanding without reflecting the historical development of geographical thought as a whole (Entrikin, 2011). Since the institutionalization of geography as a discipline, regional geography has been a significant source of theoretical debate and concrete research practice (Paasi, 2009). For this reason, these theoretical debates on regional geography are presented in the literature section of the study together with the historical thought evolution of the discipline.

In the history of geographical thought, region has been associated with both the human and the natural. In this respect, region includes the external knowledge of nature as part of human practices in geographical research. Depending on different classification methodologies, region has been a concept that describes the distinctive and self-consistent sum of specific phenomena and contains their internal knowledge (Harvey, 2015). With this perspective, in the historical process of geography, attempts have been made to explain the changing context of natural or social events and phenomena in space through regional studies. Thus, this approach has become the main motif of the geographical way of knowing that the totality formed by both nature and social life exhibits spatial differences within itself. In this way, geographers have turned toward understanding human practices within their own "living environment" (Bekaroğlu, 2016). Those who argue that this approach has provided geographers with a scientific vision of "what to look for" and "how to look" have accepted the region as both a "way of seeing" what is similar and different and a tool for organizing thoughts about the world, perceiving, enabling perception and making sense of the whole (Gregory et al., 2009; Haggett, 1969; Hartshorne, 1959).

Over time, geographers have begun to reflect on how each regional unit is interrelated, how phenomena are integrated into space, or in what ways it differs from the whole that makes this relationship discontinuous. Thus, they became more oriented towards seeking answers to a series of epistemological questions such as: "Why is there a need to divide the earth as a whole into parts?", "What makes a region different from its surroundings?", "How are the boundaries of a region to be determined?", and "What is a region a part of, and to what extent is the part subject to the whole?" (Harvey, 2015; Lacoste, 2014).

According to Nir (1990), the need to draw boundaries in space emerged as individuals came together in the form of families, tribes, settlements, cities, and states. Indeed, the first traces of the need to divide social units into more manageable ones can also be seen in the chorographic works of Ancient Greek and Roman thinkers. When examining works from that period, many aspects of daily life, including culture and governance style, were interpreted through regional differences and comparisons (Paasi, 2009; Tomaney, 2009). A common point of these studies is that they were based on the determinist discourse, which described natural and human phenomena according to their local positions. For example, in Strabo's work titled *Geographica*, the relationships that humans established with their environment were explained on the basis of given natural conditions, and the "unique/particular/singular" nature of places was interpreted along this axis (Holt-Jensen, 2017).

The work of Bernhardus Varenius in the mid-17th century was influential in the emergence of the main approach to regional studies in the modern geography period (Bauab, 2011; Holt-Jensen, 2017; Martin, 2005; Paasi, 2009; Shaw, 2008). Varenius' *Geographia Generalis* is a key turning point in understanding the place and importance of regional geography in the history of geographical thought. This work, published in 1650, laid the scientific foundations of geography and proposed the division of geographical knowledge into two main branches: general (systematic) and special (regional) geography (Gregory et al., 2009; Tomaney, 2009; Unwin, 1992). According to this distinction, systematic geography is nomothetic while regional geography is an idiographic approach (Holt-Jensen, 2017; Nir, 1990). In fact, Varenius' intellectual effort on the relationship between the regional and the universal was the result of the flow of new knowledge regarding specific places and the goal of generalizing this knowledge (Martin, 2005).

Regional generalizations made in the modern geography period were dominated by a reductionist understanding (Stern, 1992). This understanding was influenced by the principle-setting natural sciences and philosophy defining space as a particular, fixed and non-relational container in the Cartesian manner. Thus, the realization that data to be obtained based on local observations cannot be isolated from space and time has further reinforced determinist ideas (Livingstone, 2011). The fact that each piece of geographical data carries the codes of its own absolute space and time has made it even more important to reveal the code carried by the unique and different (Baulig, 1959). For this reason, discussions on the region have centered on the following question: "Are regions a mental category, or are they a spatial reality?" (Nir, 1990; Paasi, 2009).

Kant's acceptance of space and time as absolute, but also as mental concepts independent of experience (a priori) as the "condition" of existence, bolstered the idea that regions are "mental", that is, fictional (Harvey, 2015; Kant, 1999, 2002). Kant's ideas regarding the ways of grasping space and time were subsequently introduced into geography through Ritter and Humbolt (Tekeli, 2012; Unwin, 1992). These names were later followed by Hettner in Germany and Hartshorne in America. The justification of the borders drawn in space and the provability of the region as a spatial "reality" was through determinism. Until the mid-20th century, although a form of rationality valid for all times and places was partially achieved in physical geography, the difficulties in demonstrating this rationality caused geographical studies to be based on given natural conditions. The fact that absolute space is at the center of modern philosophical thought has made this relatively easier. Thus, the means of drawing boundaries to what is both a part of the whole and homogeneous in itself has been sought in nature (geology, landforms, climate, soil, vegetation, etc.). With this approach, it was aimed to facilitate the analysis of the complex in space, to verify regional hypotheses and to obtain information that could form physical laws (Baulig, 1959).

Although the use of determinist thinking to legitimize the imperial events of the 19th century facilitated the introduction of geography into modern science, it was characterized as a tool that served power (Özgen, 2012). Geography has sought to legitimize inter-societal competition and the conquest of certain societies by others in order to gain an important position in the mass reproduction of ideas. Moreover, by utilizing evolutionary biology, it has aimed to explain the concepts of identity and nationalism based on the relationship between the locus of power of certain ethnic groups and their regional origins (Peet, 1985). This approach assigned a different identity to the concept of region and strengthened the concept of "regionalization". The ritual of regionalization has popularized the idea that the aim is not only to draw lines on space, but also to reflect on the meaning of space and to determine policies accordingly. In this respect, understanding the region as an intellectual goal in geography became more important than categorizing space (Hart, 1982). In this period, Ratzel's concept of *Lebensraum* (habitat/environment), which emphasized biological and environmental conditions, came to the fore. With this concept, Ratzel paved the way for the redefinition of previous theories of the "organic state" and his views spread to continental Europe and America (Balibar & Wallerstein, 2000; Bassin, 1987). In this sense, the determinism and "uniqueness" of the region remained dominant until the mid-20th century, when empires largely disintegrated and nation-states rapidly took their place on the historical stage (Agnew, 2018; Baulig, 1959).

The acknowledgement that nature cannot be independent from social processes and that nature is a product has led to the definition of space as a reflection of social forms and heightened criticism towards determinist thinking in geography. Consequently, Paul Vidal de la Blache, the pioneer of the French regional geography school and one of the most important thinkers of the 20th century, as well as names such as L. Febvre, A. Demangoen, J. Gottmann, C. Sauer, E. Huntington and I. Bowman, who were influenced by him, argued for emphasizing human practices as opposed to determinism (Arı, 2017; Couper, 2015; Dikshit, 2011; Öngör, 1963; Peet, 1985). According to this new Vidalian approach, which emerged after the 1920s as a reaction to determinism and was called Possibilism, regions are not given (Harvey, 2015). Although natural processes are influential on human practices, they are not the sole determinant, and nature provides individuals with many possibilities of activity, allowing them to choose the way of life (*genre de vie*) that suits them. From this perspective, each place is formed by the juxtaposition of a certain number of cells, the boundaries of each of which are "geographical data". Thus, each region is the subject of a monographic study based on "its" distinct characteristics (Lacoste, 2014). In this method, which can also be referred to the relationship between the logic of forming the boundaries of regions and the mathematical function of sets, the question of what is to be accepted as "order" is important (Hanson, 1958). However, the possibilists, like the determinists, saw reaching the whole by focusing on the relationship of all phenomena in space as the ultimate goal of geography. For this purpose, they argued that since it is difficult to study the whole, dividing the space into small parts and understanding the laws, systems and processes operating in each part means understanding the whole. This is because the smaller the scale, the easier it is to ensure homogeneity and this increases the level of significance of the laws put forward (Haggett, 1969).

Therefore, regional studies have been the main concept of geography since the 1920s, and the number of regional monographs has increased (Ashutosh, 2017; Dikshit, 2011; Fitzgerald, 1943; Martin, 2005; Oberhauser, 1995; Paasi, 2002). With these studies, the idea that the world consists of a mosaic of interrelated regions and that understanding the natural and human conditions that determine the lifestyle choices of individuals depends on understanding the regions has gained further prominence (Johnston & Sidaway, 2005; Öngör, 1963; Özgüç & Tümertekin, 2000; Öztürk, 2007). In this period, Richard Hartshorne's views on regional geography occupied an important place in the history of geographical thought (Agnew, 2018). Hartshorne (1939) argued that the main purpose of geography is to explain the diversity in different parts of the world and stated that regional geography is an indispensable method for understanding this diversity. Hartshorne (1939) argued that regional geography is important to realize the integrative or synthesizing purpose of geography. Hartshorne's views profoundly influenced the methodology and philosophy of geography and left a significant mark on subsequent generations of geographers (Cresswell, 2013).

Regional geography has reigned as the dominant paradigm of the discipline for many years (Cresswell, 2013). It dominated the systematic approach until the 1950s (Paasi, 2009). However, the exceptionalist nature of the regional approach and its weakness in terms of generalization and theory-building made the comparability and reproducibility of regional studies problematic (Gilbert, 1988; Minshull, 2017). Furthermore, the traditional regional approach considered the region as a static and isolated entity in a holistic structure, thus isolating it from its historical and global contexts (Cresswell, 2013; Dikshit, 2011; Martin, 2005; Minshull, 2017; Nayak & Jeffrey, 2013). These strong critiques of the regional approach from the early 1950s onwards led to the quantitative revolution, an intellectual transformation that set the stage for the transition from modern to contemporary geography (Cresswell, 2013; Dikshit, 2011; Harvey & Holly, 1981; Martin, 2005; Peet, 1985). The quantitative revolution paved the way for theory development in geography, enabling mathematical and statistical expression and testing of the relationships between geographical events and processes (Burton, 1963; Gilbert, 1988; Gregory, 1988; Johnston & Sidaway, 2005). The essence of this approach has been to move away from focusing on specific and particular characteristics of regions and towards making arguments that can be applied in general. In this context, quantitative geography emerged as a response to the inadequacy of traditional regional geography in explaining general spatial dynamics (Nayak & Jeffrey, 2013).

The visibility of regional geography, which took on an anachronistic appearance with quantitative geography, gradually began to fade within the discipline, but it remained the dominant paradigm until the 1950s in the United States, the 1960s in the United Kingdom, the 1970s in Germany and the 1980s in France (Couper, 2015; Cresswell, 2013; Dikshit, 2011; Martin, 2005; Yavan, 2014). With quantitative geography, the understanding of region has also been transformed. Traditional regional geography, which is descriptive and focuses on the unique characteristics of specific areas, has been criticized for its lack of scientific rigor. With quantitative geography, regions are no longer seen as unique entities but as units of analysis where spatial phenomena can be measured and compared (Cresswell, 2013). This has led to the development of new definitions of regions such as functional regions and formal regions (Dikshit, 2011; Montello, 2003; Nir, 1987). Over time, the quantitative revolution, which also affected geography departments in countries outside the United States and the United Kingdom, can be viewed as a major revolution that ended the dominance of regional geography within the discipline (Paasi, 2009).

Following the quantitative revolution in which positivist and empirical methods rose to prominence, strong criticisms against positivism emerged in the early 1970s with the influence of critical theories (Holt-Jensen, 2017; Nayak & Jeffrey, 2013; Peet, 1998). Thus, as interpretivist and critical approaches gained momentum in response to positivism; anthropocentric, structuralist, Marxist, feminist, and post-modernist approaches became effective in geography as a result of the reflection of social events (especially the 1968 student movements, minority rights, feminist movement, etc.) on geography (Nayak & Jeffrey, 2013; Yazan & Bekaroğlu, 2018). In this period, the return to regional geography was first expressed in the 1980s with the new regional geography approach (Johnston, 2005). This approach moved away from the previous positivist and deterministic understandings of regional geography and tended to re-evaluate the concept of region through socio-cultural structures, identities

and power relations. In this context, new regional geography refers to a transformation characterized by a refocusing of regional geography on the study of spatial relations in socio-economic contexts (Gilbert, 1988).

Instead of conceiving the region as a fixed and determined space, the new regional geographers interpreted it as a space that is continuously constructed and reproduced through social practices and discourses (Paasi, 1991). The 1990s was a period in which postmodernism and cultural approaches were influential in regional geography. In this period, a more critical and interpretive approach was adopted in regional geography, emphasizing the multi-layered nature of individual experiences, identities and places. Additionally, the importance of narrative and representation in comprehending regional differences and local cultures increased in this period (Minca, 2001). During this time, regional geography tended to examine how spatial identities are constructed by viewing the region as a multi-layered and dynamic structure.

Region in Geography Education

In the history of geographical thought, the origins of regional geography date back almost to antiquity (Paasi, 2009). However, despite the changing approaches in the history of geographical thought, the region has almost always been at the center of the discipline, as the meaning attributed to the region has also changed (Montello, 2003; Paasi, 1991; Wade, 2006). From the perspective of school geography, the golden period of regional geography was at the end of the First World War, when the importance and popularity of the science of geography increased further (Avdić et al., 2020). This is also the period in academic geography when regionalism prevailed as the dominant paradigm in the discipline. The main goals of geography education in schools during this period were the definition, delimitation and analysis of regions (Lambert & Morgan, 2010). In this context, the focus was on how natural elements shape regions, and in this sense, human geography was also handled from a deterministic perspective. Thus, by emphasizing the natural characteristics of regions (climate, topography, vegetation, etc.), the idea that natural factors determine social life became dominant. Human factors, on the other hand, were kept in the background. In the early second half of the 20th century, following the quantitative revolution in academic geography, regional geography gradually lost its dominance in school geography (Avdić et al., 2020). The main criticisms of the regional geography perspective in schools during this period were its focus on description, its encouragement of rote memorization instead of critical thinking, and its lack of a problem-solving approach. The quantitative revolution transformed school geography into a more analytical, critical and problem-solving oriented structure, leaving behind the descriptive and rote approach of regional geography. Thus, the traditional regional geography approach in curricula was reduced in many Western countries in a process that lasted until the 1970s. For example, in the United Kingdom, this process lasted until the late 1960s (Lambert & Morgan, 2010). However, following both the criticisms against positivism in academic geography since the early 1970s and the new regional geography discourses that emerged in the early 1980s, various reports and declarations were published by international geography associations that underlined the place of the region in geography education.

In 1984, the Association of American Geographers and the National Council for Geographic Education published Guidelines for Geographic Education: Elementary and Secondary Schools (Association of American Geographers [AAG], 1984). In this guideline, it was argued that teachers should shape their geography lessons around the five fundamental themes of geography: place, location, human-nature interaction, movement, and region. Similarly, in 1992, the International Declaration on Geographical Education published by the Commission on Geographical Education of the International Geographical Union (IGU-CGE) included the concepts of place, location, human-nature interaction, movement and region under the title of "Questions and Concepts in Geography" (Artvinli & Kaya, 2010; International Geographic Union, Commission on Geographical Education [IGU-CGE], 1992; Şahin, 2020, 2022). About two years after the 1992 declaration, the four major geographical societies in the United States, namely the National Geographic Society, the American Geographical Society, the Association of American Geographers and the National Council for Geography Education published Geography for Life: National Geography (Bednarz et al., 1994). In this guideline, it was emphasized that the region should be included in the 5 basic subjects of geography education.

As seen in the international documents listed above, the concept of the region has a very important place in geography education (Akimoto, 2015; Świątek & Osuch, 2020). The concept of region is utilized to facilitate students' understanding of various spatial patterns of the world and human-environment interactions. With data from regional studies, students can analyze similarities and differences between places, examine the factors that shape places, and gain insight into the complex relationships that exist within and between regions (IGU-CGE, 1992). In addition to these, regional studies can also be used to gain spatial thinking skills, analyze national or international events and phenomena in a geographical context, and use inductive methodology when required (Koç & Aksoy, 2012). Thus, students can comprehend both the interconnections of various elements within a region and the relationality of flows of people, goods and ideas by understanding that regions are not isolated. At this point, Hart (1982) states that the best way to unify geography, which has a dual structure, as a discipline is regional geography. Accordingly, the region should be included in the curriculum as a good pedagogical tool for geography education (Gersmehl, 2008; Halseth, 1998; Lee, 2023; Standish, 2018a, 2018b, 2021; Wade, 2006).

Another reason for including regions in geography education is to understand the change / chaotic situation brought about by globalization, which has become increasingly stronger after the 1980s (Rees & Legates, 2013). It is valuable for students to gain awareness about the social, cultural, and economic debates in the global-local (regional) dualism in terms of interpreting the regions created according to human criteria (Šabić et al., 2018). Geography is also one of the subjects that help students develop a sense of place and belonging. Students can explore their identities by examining their own country, the regions their country is part of, and other regions worldwide. Additionally, students can understand the challenges and opportunities where they live and develop a sense of empathy and altruism for other communities. However, there are important issues to be considered in the process of developing a region-based program. The 1992 International Declaration on Geography Education states that in the process of preparing a region-based curriculum, regions can be selected as local communities, regions of residence, country of residence, continents of residence, other continents and regional groups, world and global structures (IGU-CGE, 1992). According to this declaration, the principles guiding the selection of regions at all levels should be the following;

- Decentrism — regions should be chosen to avoid national or continental centrism;
- Motivation — regions should be chosen to take account of students' interests and the actuality of current events;
- Balance of scale — regions should be selected to include experience of a range of scales from local to global;
- Diversity — regions should be selected to include a selection of contrasting places, various physical environments, different human activities, cultures, socio-economic systems and stages of development and sustainability;
- Relevance — regions should be selected to provide studies which are relevant to public, vocational and private life;
- Responsibility — regions should be selected to enable students to recognise and accept their responsibilities for action at a range of scales from local to global (IGU-CGE, 1992, p.10).

The Lucerne Declaration on Geography Education for Sustainable Development published by the IGU-CGE in 2007, like the 1992 declaration, states that local, national, international, and global scales should be considered in the selection of regions (IGU-CGE, 2007). However, the Lucerne Declaration also emphasizes that regional issues should be organized in such a way as to provide a global perspective rather than adhering to a strict "from near to far" logic (IGU-CGE, 2007).

As can be seen, the region has played an essential role in the evolution of geographical thought. From the environmental determinism of the early 19th century to the regional synthesis approach of the mid-20th century and more recent critical and postmodern perspectives, the idea of region has been central to the way geographers conceptualize space and place (Paasi, 1991). Although the region's visibility within the discipline has sometimes diminished in this process, the theoretical debates and the meaning attributed to the region and regional geography have persisted to the present day.

Regional geography experienced its golden age in the second half of the 19th century and the first half of the 20th century in the history of geographical thought (Bilgili, 2016; Guelke, 1977; Wade, 2006; Wood, 1999; Yavan, 2014). This period also coincided with the establishment, organization, and even the rise of modern Turkish geography (Erinç, 1973). The second half of the 20th century witnessed a quantitative revolution and an epistemological revolution in the history of geographical thought. In both revolutions, the perspective on region and regional geography and the understanding of the region changed. In many developed Western countries, school geography has also been affected by the changing approaches in academic geography, and this has been reflected in the curricula (Lambert & Morgan, 2010).

Especially in the last decade, various studies have been conducted by the new generation of geographers that examine the reflections of all these processes experienced with the evolution of geographical thought on modern Turkish geography and the regional tradition within modern Turkish geography (Arı, 2013, 2019; Bekaroğlu & Sarış, 2017; Bekaroğlu & Yavan, 2013, 2018; Bekaroğlu et al., 2019; Bilgili, 2016; Özgür, 2018, 2021; Özgür & Yavan, 2013; Tekeli, 2012; Tüysüz & Yavan, 2012; Yazan & Bekaroğlu, 2018). However, the few existing studies in the field of geography education focus solely on teachers' views regarding the paradigms in the history of geographical thought, while the rest of the literature is oriented toward academic geography (Kurtkaya & Ünlü, 2023; Öztürk, 2012; Öztürk & Karabağ, 2012). In contrast, there is no study in the literature that explores how these various approaches have been reflected in school geography curricula in Türkiye. Therefore, this area represents a substantial research gap.

Purpose of the Study

Geography curricula (GCs) should be continuously renewed and developed in terms of the discipline's evolution of thought as well as pedagogical strategies and didactic practices. The quality of a curriculum depends on reflecting the epistemology of the discipline to it as much as possible (Butt, 2020). Introducing students to geography can be achieved by teaching them not only subject knowledge but also the ways of thinking and research methods of geography (Standish, 2018a). In this context, the present study aims to examine the historical change in the understanding of the region in the secondary geography curricula implemented in Türkiye from the early Republican period to the present day from the perspective of changing approaches with the evolution of geographical thinking. Accordingly, answers to the following research questions were sought:

1. How has the understanding of "region" in GCs changed historically from the early Republican period to the present?
2. How was the concept of region addressed in the GCs implemented between 1924 and 1941?
3. What were the implications of the First Geography Congress in 1941 for delineating geographical regions, and how were these reflected in the GCs?
4. What changes occurred in the interpretation of region and regional approaches in the GCs implemented between 1942 and 2004?
5. How did the place and function of the concept of region within the program change with the 2005 GC?
6. How do the learning outcomes related to the concept of region in the 2017 and 2018 GC differ in content and scope from previous curricula?
7. How does the way the concept of region is addressed in the GCs reflect the evolution of geographical thought?

Method

Research Model

This study, which aims to examine the historical transformation of the understanding of "region" in the GCs implemented from the proclamation of the Republic to the present day, adopts a qualitative design. In line with the aim of the study, a detailed descriptive literature review was conducted on how the role of "region" and "regional geography" has evolved over time within the history of geographical thought. In addition, the historical research method was used as the primary study design. The historical research method involves a detailed investigation of a past event, phenomenon, condition, or concept within its context and through the stages of its historical development (Best & Kahn, 2005; Cohen et al., 2018; Karasar, 2016). According to the 2015 International Declaration on Research in Geography Education; empirical, theoretical/philosophical, comparative, and historical approaches are among the essential methodologies in studies on geography education (IGU-CGE, 2015). Historical educational studies are typically carried out in four main stages: (1) identifying a research question, (2) locating historical data sources, (3) evaluating the authenticity and accuracy of historical data, and (4) synthesizing historical data into meaningful chronological and thematic patterns (Fraenkel et al., 2012; Gall et al., 2007). Accordingly, following the identification of the research questions, data sources were obtained from two distinct types of sources, and their accuracy was verified through cross-comparison. Subsequently, based on the literature review, the data were subjected to descriptive and content analysis in a chronological sequence corresponding to the historical periods identified.

Data Source and Data Collection

Data sources in historical research are primary and secondary sources that can be used without primary sources or to complement primary sources (Cohen et al., 2018; Fraenkel et al., 2012). In this context, a total of 17 GCs implemented at the secondary education level since 1924 constitute the primary data source of the study (Table 1). The secondary data source of the study consists of the reports and minutes of the First Geography Congress held in 1941. The concept of geographical regions, which was formed with the division of Türkiye into seven geographical regions and included in the GCs until 2005, was established during the First Geography Congress. The opinions and discussions of the Geography of Türkiye Commission, which was formed during the congress, were recorded in reports and minutes in the process of determining the regions and the understanding of the regions formed. Moreover, the 1942 GC was prepared in this congress organized under the leadership of the Ministry of National Education (MoNE) at the time. For this reason, congress reports and minutes were evaluated as secondary data sources since it was an important turning point that shaped geography education in the historical process.

Table 1. Primary Data Source of the Study: GCs Implemented Between 1924-2024

	GCs	Board of Education Decision No	Board of Education Decision Date	Implementation Period
1	1924 GC			1924-1938
2	1938 GC	104	13.09.1938	1938-1940
3	1940 GC	191	17.09.1940	1940-1942
4	1942 GC	31	27.02.1942	1942-1957
5	1957 GC	215	21.09.1957	1957-1971
6	1971 GC	110	22.03.1971	1971-1973
7	1973 GC	541	29.12.1973	1973-1982
8	1982 GC	156	19.11.1982	1982-1983
9	1983 GC	107	08.07.1983	1983-1992
10	1992 GC	190	08.07.1992	1992-2005
11	2005 GC	198	14.07.2005	2005-2010
12	2010 GC	5	10.02.2010	2010-2011
13	2011 GC	131	26.08.2011	2011-2014
14	2014 GC	85	04.09.2014	2014-2017
15	2017 GC	84	05.07.2017	2017-2018
16	2018 GC	26	19.01.2018	2018 -2024
17	2024 GC	20	23.05.2024	2024 +

The GCs, which constitute the primary data source of the study, were obtained in three stages (Figure 1). These stages are as follows;

1. A substantial number of GCs were obtained by scanning the electronic archive of the Journal of Announcements (Tebliğler Dergisi) of the MoNE, which contains issues published between 1926 and 2024.
2. Additionally, the Board of Education (BoE) archive provided access to all secondary school GCs implemented between 1924 and 2024, including those not retrieved during the first phase.
3. In the final stage, GCs obtained from both the BoE archive and the Journal of Announcements were compared, and the originality and accuracy of the data were verified, thereby completing the process.

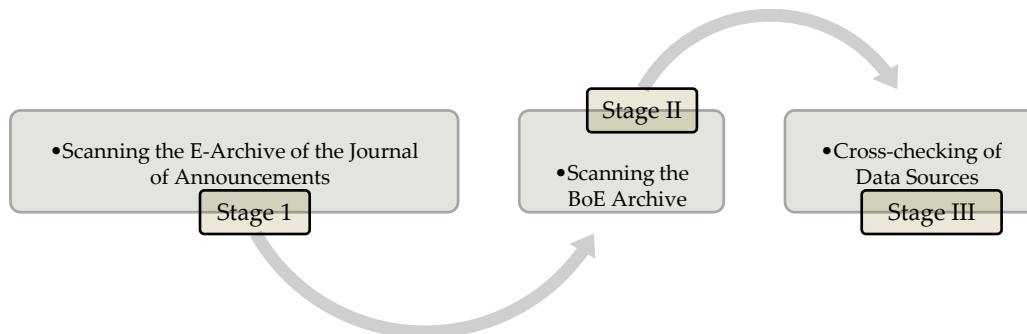


Figure 1. Stages of Accessing the Primary Data Source

The reports and minutes of the First Geography Congress, which constitute the secondary data source of the study, were accessed through Ankara University Faculty of Language and History Geography Library. After accessing the primary and secondary data sources of the study, the 1924 GC was translated from Ottoman Turkish into modern Turkish by an expert. Then, data were collected by examining the study's primary and secondary data sources through document analysis, a data collection technique commonly used in qualitative research. Document analysis is a data collection technique commonly used in qualitative historical research (Best & Kahn, 2005; Bowen, 2009; Mertens, 2010; Yıldırım & Şimşek, 2018). A data collection form was prepared for the primary data source of the study, and data were generated by examining the curricula through this form (Figure 2). The secondary data source of the study was obtained by directly examining the curricula to complement the primary data source.

<i>Curriculum Information</i>	
BoE Approval Date	
BoE Decision Number	
Courses Covered by the Curriculum	
Period of Implementation	
<i>Regional Content in the Curriculum</i>	
Course Containing the Regional Content	
Weekly Course Hours	
Compulsory / Elective	
Unit / Learning Area Including the Regional Content	
Topic Including the Regional Content	
Learning Outcome Including the Regional Content	

Figure 2. Data Collection Form Used for the Primary Data Source of the Study

Data Analysis

The data obtained from the study's primary and secondary data sources through the document review technique were analyzed using the descriptive analysis technique. Descriptive analysis is a widely used method of qualitative historical research in educational sciences (Fraenkel et al., 2012). In descriptive analysis, the data collected are summarized and interpreted according to predetermined themes and categories (Yıldırım & Şimşek, 2018). Based on the literature review, the historical shift in the understanding of region in the history of geographical thought was categorized into three periods based on paradigms (traditional regional geography, quantitative geography, critical period) (Figure 3-a). According to these categories, the GCs implemented between 1924 and 2024 (Figure 3-b) were analyzed through the data collection form. Then, a descriptive analysis was performed according to the regional understanding of traditional regional geography, quantitative geography, and critical period.

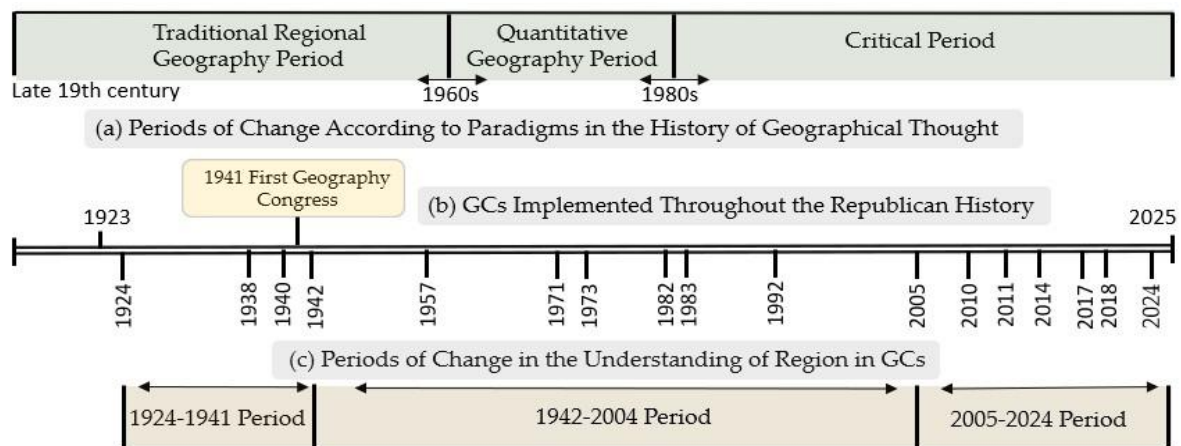


Figure 3. Periods of Change According to Paradigms in the History of Geographical Thought (a), GCs Implemented Throughout the Republican History (b), Periods of Change in the Understanding of Region in GCs (c)

Following the analysis of the GCs in line with the approaches of the periods identified, the programs implemented in the 100 years between 1924-2024 were examined in detail in three periods (Figure 3-c): 1924-1941 (I), 1942-2004 (II) and 2005-2024 (III) and the study findings were presented in line with these periods. In this process, the regional understanding of the GCs of the 1942-2004 period was analyzed together with the reports and minutes of the First Geography Congress of 1941. Accordingly, by analyzing the content of these reports and minutes, findings on the purpose and process of creating geographical regions were obtained. In this way, it was possible to understand curricula development over time in more detail and to evaluate how the understanding of regions was affected in this evolution process.

Validity and Reliability of the Study

Reporting the data collected throughout the study and explaining how the researcher reached the conclusions are important criteria for determining research validity in qualitative studies (Creswell, 2013; Yıldırım & Şimşek, 2018). In this context, to ensure the internal validity of the study, the authenticity of the data sources was confirmed, as seen in Figure 1. Furthermore, the data collection form, designed to gather information from the primary source of the study, was reviewed by an independent expert in the field of geography education and subsequently finalized. To ensure the external validity of the study, all GCs applied from the early Republican period to the present time were analyzed, with comprehensive descriptions of the study procedures and methodology provided.

Reliability in qualitative research refers to the consistency of the researcher's approach in terms of different projects and different researchers (Creswell, 2013). In this context, the reliability of the study and data was ensured by confirming the results of the study and directly including the data in a descriptive manner. The consistency of the data analysis in the present study was made possible by the

systematic application of the methods used and the transparent conduct of the analysis process. Accordingly, the data collected were categorized according to three main periods (traditional regional geography, quantitative geography, critical period), which were determined as a result of the literature review and reflect the historical change in the understanding of the region in the history of geographical thought. Through the data collection form, all GCs between 1924-2024 were examined according to these categories and the conformity of each program with the regional understanding of the relevant period was analyzed. Furthermore, the analysis of the GCs of the 1942-2004 period was performed together with the reports and minutes of the First Geography Congress of 1941, which is the cornerstone of this period. Thus, the development process of the curricula and the changes in the understanding of the region were evaluated more comprehensively and consistency was ensured in the analysis process.

The role of the researcher is vital for the reliability and validity of the study (Best & Kahn, 2005; Cohen et al., 2018). In this study, the researcher has many years of experience in the field of geography education, and their experience in this specialization was effectively used to collect and interpret data. The researcher adopted a reflective approach to be aware of their own biases and assumptions and to minimize their impact on the research process. The ethical dimension of the research was handled meticulously. Academic ethical rules were followed in citing the documents analyzed as sources. In the data collection and analysis processes, the principles of scientific research and publication ethics were adhered to. Moreover, the principles of transparency and accuracy were observed in reporting the research findings.

Findings

The findings obtained through the research data analysis are presented in three periods: 1924-1941, 1942-2004, and 2005-2024.

Understanding of Region in the GCs Implemented Between 1924 and 1941

In the period 1924-1941, two curriculum changes took place, one in 1924 and one in 1938. However, these were only minor changes. In this period, geography in secondary education consisted of three different courses: General Geography (Natural, Human, and Economic) at the first grade of high school, Geography of Major and Neighboring Countries at the second grade of high school, and Geography of Türkiye at the third grade of high school (Maarif Vekâleti, 1924, 1938). None of the curricula of these three courses included the concept of region, nor did they include any regional approach or classification. Even in the Geography of Türkiye course curriculum, it is seen that the subjects are handled with a systematic approach, and no regional classification is included. However, according to the reports and minutes of the First Geography Congress of 1941, different regional classifications are used in the teaching of Turkish geography in practice.

Understanding of Region in the GCs Implemented Between 1942 and 2004

In the 63 years between 1942 and 2004, there were seven curriculum changes: 1942, 1957, 1971, 1973, 1982, 1983, and 1992 (Maarif Vekâleti, 1942; MoNE, 1957, 1971, 1973, 1982, 1983, 1992). The 1942 GC was prepared during the First Geography Congress held between June 6-21, 1941, under the leadership of the Ministry of Education. Three commissions were formed at the congress: the Program and Textbooks Commission, the Term Commission, and the Geography of Türkiye Commission. The Program and Textbooks Commission designed the GC to cover three different courses: General Geography at the first grade of high school, Geography of States at the second grade of high school, and Geography of Türkiye at the third grade of high school (Maarif Vekâleti, 1941). One of the most important issues discussed at the congress was the division of Türkiye into geographical regions in order to facilitate the teaching of Turkish Geography. The Turkish Geography Commission justified this situation in the congress report as follows;

The issue of the division of regions was one of the main issues that the geography congress addressed and wanted to bring to a good conclusion. The geographical divisions in the geography books that have appeared in the field of education until today were very different in terms of number, area, and name. No matter how much effort had been made by the authors to base the aforementioned divisions on scientific principles, the significant differences between the opinions of the authors had led to a complete anarchy in the teaching of national geography; in fact, until very recently, even books that took very unscientific methods such as dividing the country into administrative divisions, river basins and even into several compartments with almost straight lines along the meridians had appeared in the field of teaching (Maarif Vekâleti, 1941, s.76).

As can be seen here, the biggest reason for dividing Türkiye into geographical regions is that different educators and textbooks use different regional classifications in teaching Turkish geography. For this reason, it is emphasized that a standard regional classification is needed both to facilitate the teaching of Turkish Geography and to ensure unity in the teaching process. According to the minutes and reports of the Commission, the Geography of Türkiye Commission followed a five-stage approach in the creation of geographical regions (Figure 4). Accordingly, in the 1st stage, the principles to be taken into account in determining geographical regions were established; in the 2nd stage, seven geographical regions to be used at the primary and secondary education level were created according to the principles determined, in the 3rd stage, the borders of the seven geographical regions were identified on a large-scale map, in the 4th stage, the geographical regions created were divided into sub-regions and named, and finally, in the 5th stage, the study was presented to the Congress (Maarif Vekâleti, 1941).

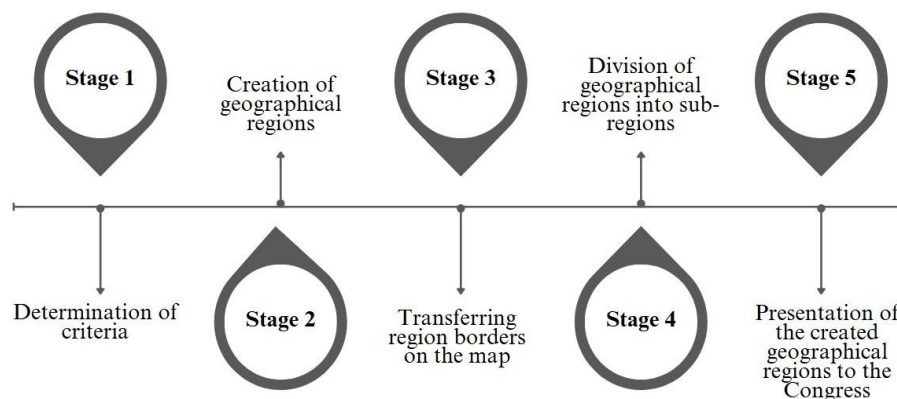


Figure 4. The Stages of Creating Geographical Regions in the First Geography Congress

As a result of the completion of the stages listed above, geographical regions and the borders and names of the sub-regions that make up these regions were discussed and accepted in the congress, and geographical regions were included in the primary, secondary and high-school GC. Accordingly, the subject of geographical regions was added to the 4th-grade geography course at the primary school level, to the 3rd-grade Geography of Türkiye course at the secondary school level and to the-3rd grade Geography of Türkiye course at the high school level. The curriculum prepared at the congress was accepted and put into practice with the decision of the BoE dated 27.02.1942 and numbered 31.

The 1957 GC and the 1971 Draft GC did not differ in terms of the concept of region and the regional approach compared to the 1942 GC (MoNE, 1957, 1971). In the 1973 GC, however, in the Türkiye Geography course, the elements that constitute the geographical regions—namely landforms, climate, vegetation, rivers, lakes, seas, and coasts—were included with an emphasis on being addressed “briefly” prior to the geographical regions themselves (MoNE, 1973). Thus, the curriculum included the elements forming the geographical regions for the first time. However, it is observed that all of these elements are natural components.

In the GC, which was temporarily put into practice in 1982, the Geography of Türkiye course, which was taught in the 3rd grade of high school in the previous programs, was replaced by the Geographical Regions of Türkiye course in the 2nd grade of high school. Thus, for the first time, geographical regions ceased to be a unit or a subject and became an independent course (MoNE, 1982). However, it is seen that the elements that make up geographical regions, which were briefly included in the 1973 GC, are not included in this program. Another noteworthy point is that although the name of the course is Geographical Regions of Türkiye, Türkiye's neighbors (Bulgaria, Greece, Cyprus, Iraq, Iran, Syria, and the Soviet Union), which were previously included in the Geography of Countries course in the 2nd grade of high school, are included in this course. The reason for this is that with the abolition of the Geography of Countries course in the 1982 temporary GC, some of the countries previously included in this course were transferred to the Geographical Regions of Türkiye course, and the other part was transferred to the Economic Geography of Türkiye course taught in the 3rd grade of high school.

After the 1982 Provisional GC was implemented for only one year, following some minor changes, the 1983 GC was put into practice starting from the 1983-1984 academic year. The 1983 GC also included a course on Geographical Regions of Türkiye in the 2nd grade of high school. However, unlike the 1982 GC, the concepts of geographical region, department and precinct were included in the introduction part of the program (MoNE, 1983). Additionally, it is observed that the elements that make up the geographical regions in the 1973 GC are also included. Unlike the 1973 GC, it is noteworthy that in addition to natural elements; human elements such as population, settlement, and economic characteristics are also included. Another notable fact is that more countries (major countries of the Middle East, Balkan Countries, the Soviet Union, the major countries of Africa, and the major countries of Asia) compared to the 1982 GC were included.

In 1992, a new system called the course pass and credit system was introduced in secondary education institutions. The 1992 GC was also shaped in this direction. Accordingly, the courses Geography I and II were included in the group of common courses in secondary education institutions implementing the Course Pass and Credit Regulation. The Geography I course consists of 5 units: Earth, Map Knowledge, Climate, Structure of the Earth and Formation of Landforms, and Formation of the Earth (MoNE, 1992). The content of the Geography II course is largely the same as the Geographical Regions of Türkiye course in the 1983 GC. However, the countries included in the 1983 GC were not included in this course, and a separate elective course was created under the name Geography of Countries.

Understanding of Region in the GCs Implemented Between 2005 and 2024

From the Republican era to the present day, the most radical change after the 1942 GC took place with the 2005 GC. The 2005 GC consisted of Natural Systems, Human Systems, A Spatial Synthesis: Türkiye, Global Setting: Regions and Countries, Environment and Society and the umbrella learning area of Geographical Skills and Applications. The 2005 GC was structured to include four courses at the 9th, 10th, 11th, and 12th grade levels. Accordingly, while the 9th- and 10th-grade Geography courses were compulsory in all secondary education institutions, the 11th- and 12th-grade Geography courses were included in the weekly course schedule of secondary education institutions as elective courses. The Global Setting: Regions and Countries learning area within the 9th-grade Geography course wholly covers the subject of regions (MoNE, 2005). This learning area consisted of a total of three learning outcomes (Table 2).

Table 2. Region-Oriented Learning Outcomes in the 2005 GC

	Grade	Learning Outcomes
Global Setting: Regions and Countries Learning Area	9	D.9.1. Analyzes different examples of regions in the world regarding their characteristics and the criteria used in determining the region. D.9.2. Explains the changeability of region boundaries according to the purpose by using examples of regions at various scales. D.9.3. Distinguishes the countries in the regions determined according to various geographical criteria using maps.
Mekânsal Bir	11	C.11.10. Examples of different types of regions on maps in terms of the criteria used in defining and classifying regions.
Sentez: Türkiye	12	C.12.1. Inquires the reasons for creating Türkiye's geographical regions based on the principles of regional classification.

Source: MoNE, 2005

When Table 2 is examined, it is seen that the three learning outcomes (D.9.1,2 and 3) that make up the Global Setting: Regions and Countries learning area in the 9th grade level include the criteria used in determining the regions, the fact that the borders of the region can change according to the purpose, and the ability to distinguish the countries in the regions formed by using various criteria. Accordingly, unlike previous programs, the concept of region and its place in geography are included for the first time in the 2005 GC. On the other hand, it is noteworthy that region classification is not included. The 11th-grade learning area titled A Spatial Synthesis: Türkiye requires exemplifying different regions in Türkiye on the map using the region classification criteria (Table 2). However, again, it is expected to exemplify only using the criteria utilized in classification without giving a clear region classification. In the 2005 GC, another outcome related to the concept of region is the first of the learning area titled A Spatial Synthesis: Türkiye, which is “C.12.1. Questions the rationale behind the formation of Türkiye’s geographical regions based on the principles of regional classification” (Table 2). The notable element in this outcome is that it does not emphasize the teaching of the natural and human characteristics of the geographical regions, but rather focuses solely on questioning the rationale used in their formation. Accordingly, with the 2005 GC, the teaching of Geography of Türkiye based on geographical regions was abandoned entirely. However, geographical regions could only be included in the 2005 GC in terms of the reasons for their creation. On the other hand, since the 12th-grade Geography course is elective, it is understood that only students who choose this course can acquire this outcome (MoNE, 2005).

After five years, the 2005 GC was revised for the first time in 2010. This revision was realized both in terms of the general objectives of the GC and its content (MoNE, 2010). One of the most important changes made in the content dimension is that the 10 learning outcomes in the 2005 GC were not included in the 2010 GC. Among these 10 learning outcomes, C.11.10 and C.12.1 are also seen in Table 2. On the other hand, learning outcomes D.9.1, 2, and 3 were included in the 2010 GC without any change (MoNE, 2010). Thus, the concept of geographical region, which had been included in GCs for 68 years with the 1942 GC, was removed entirely from the curriculum.

The 2005 GC was revised again in 2011 and 2014. The 2011 revision was a minor update that involved the addition of only two new learning outcomes to the GC. Regarding learning outcomes related to the concept of region, the 2011 GC did not introduce any changes compared to the 2010 version (MoNE, 2011). In 2014, however, a more comprehensive revision was carried out, particularly at the 10th-grade level. Within the weekly high school course schedule, the 10th-grade geography course, which had previously been taught for two hours as both a compulsory and elective subject, saw the removal of its elective component. Accordingly, seven learning outcomes in the 10th-grade GC were removed. Since no changes were made at other grade levels, the 2014 GC did not differ from the 2010 version in terms of learning outcomes related to the concept of the region (MoNE, 2014).

After 13 years of implementation of the 2014 GC, the 2017 GC was put into practice due to MoNE's finalization of its comprehensive curriculum renewal and updating efforts, which included numerous curricula for primary and secondary education. Unlike the 2010, 2011, and 2014 GCs, the 2017 GC includes remarkable changes in content and assessment and evaluation approach, skills, and values (MoNE, 2017). Table 3 shows the learning outcomes related to the concept of the region in the 2017 GC.

Table 3. Region-Oriented Learning Outcomes in the 2017 GC

	Grade	Learning Outcomes
Global Setting: Regions and Countries Unit	9	9.3.1. Analyzes different examples of regions in the world regarding their characteristics and the criteria used in determining the region. a) Examples of natural and human regions from Türkiye are also given. b) Emphasis is placed on the love of the country, based on the existence of different regional examples in Türkiye and this richness.
		9.3.2. Explains the changeability of region boundaries according to the purpose by using examples of regions at various scales.
		9.3.3. Distinguishes the countries in the regions determined according to various geographical criteria using maps.
	12	12.2.2. Analyzes the functional regions in our country according to their characteristics. a) The definition of the functional zone and the criteria by which it is determined. b) The reasons for the creation of functional regions are given. c) Functional region examples defined by the Turkish Statistical Institute, the General Directorate of Highways, the State Hydraulic, the Turkish State Meteorological Service, and the General Directorate of Forestry are included.

Source: MoNE, 2017

When regional learning outcomes of the 2017 GC were examined, it was found that although they were essentially the same as those in the 2010 and later GCs, there were also some differences. Based on this, although the regional learning outcomes in the 9th-grade Geography course were not changed, two explanations were added to learning outcome 9.3.1 (D.9.1 in the 2005 GC). The first explanation required examples of natural and human regions from Türkiye. The second explanation aimed to emphasize the love of the country through its association with value-learning outcomes (MoNE, 2017). Another change was the learning outcome 12.2.2, which was added to the Human Systems unit of the 12th-grade GC. With this learning outcome, the functional region was included in the GC for the first time. However, it is noteworthy that while the functional region is not included in the 9th-grade GC, it is included in the elective 12th-grade GC. Furthermore, the functional region is addressed only at the scale of Türkiye.

After the 2017 GC underwent a partial revision following a very brief period, the 2018 GC was put into effect. This revision consists of minor changes in the general objectives, competencies, value-learning outcome association, and certain learning outcomes (9.1.7 and 9.2.4) and learning outcome descriptions (9.1.3, 9.1.4, 9.1.5, 9.1.6, 9.1.8, 9.1.12, 9.3.1, 9.4.2) of the 2017 GC. Learning outcome 9.3.1, which includes the subject of region, is also included in these learning outcome explanations. Two learning outcome descriptions (Table 3) in the 2017 GC were removed from the 2018 GC, and two different descriptions were added instead. In the first of these explanations, as shown in Table 4, “the distinction between formal and functional regions” was included (MoNE, 2018). Thus, with the 2018 GC, the region classification was included in the program for the first time. In the second explanation, this classification was requested to include different examples of regions from around the world, including Türkiye.

Table 4. Region-Oriented Learning Outcomes in the 2018 GC

	Grade	Learning Outcomes
Global Setting: Regions and Countries Unit	9	9.3.1. Analyzes different examples of regions in the world regarding their characteristics and the criteria used in determining the region. a) The distinction between formal and functional regions is given. b) Examples of different regions from Türkiye and the world are given. 9.3.2. Explains the changeability of region boundaries according to the purpose by using examples of regions at various scales 9.3.3. Distinguishes the countries in the regions determined according to various geographical criteria using maps.
	12	12.2.2. Analyzes the functional regions in our country according to their characteristics. a) The definition of the functional zone and the criteria by which it is determined. b) The reasons for the creation of functional regions are given. c) Functional region examples defined by the Turkish Statistical Institute, the General Directorate of Highways, the State Hydraulic, the Turkish State Meteorological Service, and the General Directorate of Forestry are given.

Source: MoNE, 2018

The 2018 GC was implemented until the 2023-2024 academic year. In 2024, the 2024 GC, which was prepared in line with the Turkish Century Education Model (TCEM) and approved by the BoE decision dated 23.05.2024 and numbered 20, was put into effect starting from the 2024-2025 academic year. According to the Turkish Century Education Model Curriculum Common Text (TCEMCCT), the curricula have a student-centered and flexible structure based on the holistic development of students. Furthermore, the curricula prepared according to the TCEM aim to develop students' academic knowledge and socio-emotional skills, values, and literacy abilities by dynamically addressing knowledge and skills (MoNE, 2024a). The TCEM curricula, which are stated to be prepared within the Virtue-Value-Action framework, consist of conceptual skills, field skills, dispositions, socio-emotional learning skills, and literacy skills in the context of the skills framework (MoNE, 2024a). Unlike the 2018 GC, the 2024 GC, which is stated to be prepared according to this approach, consists of seven units: Nature of Geography (1), Spatial Information Technologies (2), Natural Systems and Processes (3), Human Systems and Processes (4), Economic Activities and Their Effects (5), Disasters and Sustainable Environment (6) and Regions, Countries and Global Connections (7) (MoNE, 2024b).

Table 5. Region-Oriented Learning Outcomes in the 2024 GC

Regions, Countries and Global Connections Unit	Learning Outcomes and Process Components	GEO.9.7.1. Ability to make inferences about a region based on the criteria used to define regions.
		a) Makes assumptions about the region and its boundaries.
		b) Lists patterns in the region and along its boundaries.
		c) Compares the region and its boundaries.
		ç) Makes a proposition about the region and its boundaries.
	d) Evaluates the region and its boundaries.	
	Content Framework	Regions and their boundaries
Key Concepts	Region, functional region, formal region	

Source: MoNE, 2024

The understanding of region in the 2024 GC is reflected through learning outcome 9.7.1 in Unit 7 (Regions, Countries, and Global Connections) of the 9th-grade GC (Table 5). In the 2024 GC, this learning outcome aims to enable students to recognize different types of regions in Türkiye and around the world and to make inferences regarding the variability of regional boundaries and the transitions between them (MoNE, 2024b). The process components of this learning outcome emphasize the ability

to make inferences. Accordingly, making assumptions, listing the patterns formed by, comparing, and making propositions about regions and regional boundaries, and evaluating them constitute the process components of learning outcome 9.7.1 (MoNE, 2024b). When the 7th unit's content framework and the learning-teaching practices under the learning-teaching experiences are examined, it is seen that the region classification is made according to formal and functional regions as in the 2018 GC. In this context, it can be said that the 2024 GC continues the understanding of the region and the region classification put forward by the 2018 GC.

Discussion and Conclusion

In Türkiye, regional geography was first included in the GCs, which was prepared at the First Geography Congress and put into practice in 1942. With the 1942 GC, the teaching of Turkish geography in seven geographical regions was adopted. Regional geography had a strong influence on the discipline that continued until the second half of the 20th century (Bilgili, 2016; Guelke, 1977; Wade, 2006; Wood, 1999; Yavan, 2014). Therefore, the adoption of the approach of teaching the geography of Türkiye through geographical regions in the First Geography Congress is a result of regionalism, the dominant paradigm in academic geography at the time. Therefore, when the geographical thought of the time is considered, it can be seen that it is a contemporary approach. Arı (2013) states that regional geography was the dominant approach in this period and that Turkish geographers conducted studies in accordance with this approach. Erinc (1973) also defines this period as one in which Turkish modern geography did not diverge negatively from the world but rather entered a period of rise. Indeed, even after the quantitative revolution, the traditional regional geography approach continued to influence GCs for a certain period of time in many Western countries. The reduction of regional content in GCs first began in the United States towards the end of the 1950s. At the same time, this trend started to exert its influence in other European countries, particularly the United Kingdom, in the 1960s and 1970s (Avdić et al., 2020; Butt, 2020; Lambert & Morgan, 2010). Thus, intellectual and methodological developments in academic geography were aimed to be reflected in school geography as much as possible.

The rationale and logic behind establishing geographical regions at the First Geography Congress aligns with Vidal de la Blache's discourse on French regional geography education (de la Blache, 1908). According to Vidal, the solution to overcoming the difficulties experienced in geography education in France lies in analyzing French territories by dividing them into spatial units. This is because, according to him, perhaps the most important of the difficulties encountered in geography teaching has been the uncertainties in defining countries. Therefore, it is argued that the primary objective of geography is to address similarities and differences in terms of country physiognomy. Thus, the geography educator will be able to see the relationships in phenomena and redefine the region they want to describe by drawing boundaries in accordance with the characteristics that define it (Andrews, 1986; Church, 2015). This approach, which has pedagogical purposes, provided geographers with a method to define regions that are homogeneous within themselves and to draw their boundaries. Textbooks prepared according to this model viewed France in the form of regions. Thus, regions are presented as units that define differences and similarities. In this way, the fact that each geographical unit includes both physical (landforms, climate, vegetation, geological structure, etc.) and human (population, agriculture, cities, industry, etc.) features has been a model that facilitates students' spatial synthesis (Lacoste, 2014). This system also aimed to nurture the national self-image of the country's population residing in villages and towns (Agnew, 2018; Holt-Jensen, 2017). The symbolic interpretation of local characteristics and their association with the concept of nationhood served as a tool for the construction of national identity. Therefore, the symbolic meanings carried by different regions of the country and the association of the characteristics of these regions with the whole nation became a way of establishing national unity (Agnew, 2018; Paasi, 1986).

Although the model encountered in Türkiye's seven geographical regions is similar to this, there are significant differences. For example, unlike France, Türkiye's regional boundaries do not correspond to the heritage of historical facts. On the other hand, human characteristics were almost never taken into

account when determining the regions; they were determined more based on morphological features. For this reason, the geographical regions and boundaries adopted during the First Geography Congress process were the subject of various discussions and objections, including those of the commission members who determined the regional boundaries, both during and after the congress (Arınç, 2013; Avcı, 2011; Balcı, 2018; Darkot, 1955, 1966; Erinç, 1945, 1958; Erinç & Tunçdilek, 1952; Erol, 1993; Gürsoy, 1950, 1957; Kökten, 1945; Özçağlar, 2003; Özey, 2006, 2016; Sözer, 1993; Tuncel, 2011; Yiğit, 1996, 2000, 2006).

The inability of Turkish geographers to follow the quantitative and epistemological revolutions by refraining from contemporary geographical approaches that developed worldwide after the second half of the 20th century until recent times caused the holistic, static, and homogenizing regional understanding of traditional regional geography to dominate the discipline for a very long time (Arı, 2013; Bekaroğlu & Barnes, 2021; Bekaroğlu & Yavan, 2018). The detachment of Turkish geographers from contemporary geographical thought, particularly after the 1970s, was also reflected in geography education. As a matter of fact, the approach of teaching the geography of Türkiye through traditional geographical regions without taking into account the changing understanding of the region within the intellectual development of the discipline has been a dominant approach that suppressed GC for many years. In contrast, the traditional understanding of regional geography, along with the evolution of geographical thinking, gradually disappeared from the GC of many developed countries, especially Anglo-American countries, from the late 1950s onwards, and by the 1980s it had largely lost visibility (Avdić et al., 2020; Butt, 2020; Lambert & Morgan, 2010). In this context, geography education in Türkiye has diverged from contemporary geographical thought along with Turkish academic geography. It can also be said that the fact that graduate geography education in Türkiye emerged only at the end of the 90s and that all GC throughout the history of the Republic were prepared by academic geographers was also effective in this divergence.

From the beginning of the 1970s, strong criticisms against positivism began to be made in academic geography, and in the 1980s, with the change brought by the increasingly reinforced globalization, regional geography in geography education began to be discussed again with a changing understanding of region (Nayak & Jeffrey, 2013). International declarations and reports published by geography associations, such as the International Charter on Geographical Education published in 1992 and Geography for Life: National Geography Standards published in 1994, which guide geography education in many countries around the world, have made the region, along with human-nature interaction, movement, place, and location, one of the five most important themes of geography education within a contemporary approach. On the other hand, especially in the last decade, with the increasing awareness of contemporary geography approaches in academic geography in Türkiye, various publications criticizing the current situation of Turkish geography have started to be produced (Arı, 2013, 2019; Bekaroğlu & Sarış, 2017; Bekaroğlu & Yavan, 2013, 2018; Bekaroğlu et al., 2019; Bilgili, 2016; Özgür, 2021; Özgür & Yavan, 2013; Tekeli, 2012; Yavan & Tüysüz, 2012; Yazan & Bekaroğlu, 2018). With the influence of these developments, the teaching of the geography of Türkiye based on 'geographical regions' was abandoned entirely with the 2005 GC. Additionally, for the first time, it was aimed to establish the place of the region within geography with a contemporary approach. In line with this objective, the GC has been updated to include the criteria used in forming regions, the fact that regions can be formed according to purpose, and the variability of regional boundaries. Thus, the traditional geographical understanding of regions, which denies their dynamism both spatially and temporally, was abandoned, and a contemporary understanding of regions was reflected in the GC.

Globally, GCs are developed in two different ways: based on systematic and regional approaches (IGU-CGE, 1992; Senegačnik, 2018; Steinberg et al., 2002). In countries that develop curricula with a systematic approach, regional geography content is mainly addressed through case studies or as examples within specific thematic units (Avdić et al., 2020). This approach was adopted with the 2005 GC, and regional geography content was included in one learning area (Global Setting: Regions and Countries) from the 9th to 12th grades. At this point, Gersmehl (2008) also compares regional and systematic geography to the two sharp blades of scissors, stating that when the blades are held together, they become much sharper and more functional. Accordingly, GC should be designed to include both

approaches and used in the teaching process. According to Gersmehl's (2008) scissors analogy, this design and teaching process can be realized in two ways: from regional to systematic and from systematic to regional. For example, highlighting a specific geographical feature in a place, questioning why it is there, researching and determining its possible causes, and then trying to find other areas where the possible cause is observed is a regional-to-systematic. On the other hand, examining a spatial element on a small-scale map showing a large area and then investigating how this spatial element interacts at the local level refers to a systematic-to-regional approach.

The 2018 GC is another important milestone in GC's understanding of regions. For the first time, formal and functional regions, which are the region types adopted in the literature, were included in GC. Thus, the region classification, which was not explicitly included in the 2005 GC, was included in the 2018 GC. However, it is predicted that it will take time for the formal and functional region classification to gain a place after the traditional geographical region-based teaching that took place at every level of education between 1942-2010. Indeed, the findings of the study "The Concept of Region in Geography Education" conducted by Koç and Aksoy (2012) also support this situation. According to the findings, although students from the geography department and pre-service geography teachers demonstrated high cognitive levels regarding traditional geographical regions, their cognitive levels concerning formal and functional region types were significantly low. Similarly, in the study conducted by Öztürk and Karabağ (2012) examining teachers' views on paradigms that are effective in the history of geographical thought, it was concluded that geography teachers' knowledge about paradigms is quite inadequate. Geography textbooks also support this situation. When the 9th-grade textbooks on the historical development of geography are examined, it is observed that the historical process is included until the modern geography period and contemporary geography and approaches (quantitative geography, humanist geography, poststructuralist geography, new regional geography, critical geography) that started in the second half of the 20th century are not included (Baranaydin et al., 2023; Türkez et al., 2023). Accordingly, both the results of these two studies and geography textbooks show that the level of awareness of teachers, pre-service teachers and textbook authors towards contemporary geography approaches is inadequate. This is mainly due to the fact that a significant part of what teachers have learned during their undergraduate education has lost its validity to a great extent and that teachers do not/can not follow academic developments in line with the expanding boundaries of the discipline (Butt, 2020). Therefore, it is inevitable that teachers who cannot comprehend this dynamic understanding of region, which was introduced with the 2018 GC and sustained with the 2024 GC, will maintain the traditional understanding of geographical regions. Indeed, Fridrich (2013) states that despite the removal of regional geography from the Austrian geography and economics curriculum in 1985/86 due to didactic and pedagogical concerns, regional geography is still taught by teachers and somehow integrated into the curriculum, indicating an inconsistency between the official curriculum and actual teaching practices.

The approach of geography teachers and pre-service teachers to the concept of region is vital for reflecting formal and functional region classification in practice. However, when the course contents of higher education geography undergraduate programs are examined, it is observed that traditional geographical regions courses are still common in the vast majority of them (Bilgili, 2016). This situation brings along a contradiction in itself. Geographical regions were created to teach the geography of Türkiye in primary and secondary education at the First Geography Congress under the leadership of the MoNE of the time. However, while the traditional geographical region understanding has been abandoned in both the primary and the secondary education curricula today, it still largely persists in higher education undergraduate programs. However, the traditional Hartshornian approach to regional geography has disappeared from undergraduate programs in many countries (Halseth, 1998; Rees & Legates, 2013). This contradiction is the biggest obstacle to reflecting the new and dynamic regional understanding brought by the 2018 GC on the practice. It is challenging for pre-service geography teachers, who have been trained with the understanding of geographical regions created with a paradigm that has been abandoned in Western geographical thought since the second half of the 20th century, to comprehend the understanding of region that started with the 2005 GC, entirely shaped with the 2018 GC and sustained with the 2024 GC during their teaching process.

Suggestions

In the present study, in the context of changing paradigms with the evolution of geographical thought, the historical transformation of the understanding of the region in the GC implemented from the early Republican period to the present day was examined. In line with the findings and results of the study, research topics that can contribute to the literature are suggested below;

- According to the study findings, there is no understanding of the classification of regions in the GC implemented in the 1924-1941 period. However, according to the minutes and reports of the First Geography Congress, different regional classifications were used in practice during this period. On the other hand, the conception of region and regional classification of this period are not included in the minutes and reports of the Congress. Therefore, it is suggested that examining the secondary school geography textbooks used in the 1924-1941 period and revealing what different regional conceptions and classifications were used during this period is an important research topic that complements the present study.
- The understanding of geographical regions, which was created under the influence of the traditional regional geography paradigm, was effective on GC for a very long time until 2004. The extent to which the new understanding of geographical region brought by the GC implemented in 2005 and onwards after more than sixty years of traditional geographical region understanding is reflected in the practice and textbooks through geography teachers is suggested as a second research topic.

References

- Agnew, J. (2018). Evolution of the regional concept. In A. Paasi, J. Harrison, & M. Jones (Eds.), *Handbook on the geographies of regions and territories* (pp. 23-33). Edward Elgar Publishing.
- Akimoto, H. (2015). Reconsidering regional geography education in Japan. In Y. Ida, M. Yuda, T. Shimura, S. Ike, K. Ohnishi, & H. Oshima (Eds.), *Geograph education in Japan* (pp. 65-74). Springer.
- Andrews, H. F. (1986). The early life of Paul Vidal de la Blache and the makings of modern geography. *Transactions of the Institute of British Geographers*, 11(2), 174-182. <https://doi.org/10.2307/622004>
- Arı, Y. (2013). Yeni yüzyılda Türkiye’de coğrafya: Fırsatlar ve tehditler. *Beşeri Coğrafya Dergisi*, 1(1), 6-13.
- Arı, Y. (2017). Çevresel determinizmden politik ekolojiye: Son 100 yılda Dünya’da ve Türkiye’de insan-çevre coğrafyasındaki yaklaşımlar. *Doğu Coğrafya Dergisi*, 22(37), 1-34. <https://doi.org/10.17295/ataunidcd.269463>
- Arı, Y. (2019). Yenilik ve bilimsel gelişme: Türk coğrafya tartışma listesinin (coğrafya) içerik analizi (1997-2012). *International Journal of Geography and Geography Education*, (39), 95-120. <https://doi.org/10.32003/iggei.518929>
- Arıncı, K. (2013). Coğrafi metodoloji açısından bölgesel coğrafya, bölge bilimi ve coğrafi bölgeler. *Türk Coğrafya Dergisi*, (60), 13-24.
- Artvinli, E., & Kaya, N. (2010). 1992 Uluslararası Coğrafya Eğitimi Bildirgesi ve Türkiye’deki yansımaları. *Marmara Coğrafya Dergisi*, (22), 93-127.
- Ashutosh, I. (2017). The geography and area studies interface from the second world war to the cold war. *Geographical Review*, 107(4), 705-721. <https://doi.org/10.1111/gere.12243>
- Association of American Geographers. (1984). *Guidelines for geographic education: Elementary and secondary schools*. Association of American Geographers.
- Avcı, S. (2011). Birinci Coğrafya Kongresi ve Türkiye’nin coğrafi bölgeleri hakkındaki tartışmalara dair bir not. *Türk Coğrafya Dergisi*, (57), 95-99.
- Avdić, B., Mirić, R., & Drešković, N. (2020). Regional geography and geographical education: Changes in global trends in modern school geography. *Geografski Pregled*, (42), 9-20. <https://doi.org/10.35666/23038950.2020.42.09>
- Balcı, A. (2018). Türkiye’nin coğrafi bölgelere ayrılmasına ilişkin yaklaşımları belirlemeye yönelik nitel bir araştırma. *Marmara Coğrafya Dergisi*, (37), 30-48. <https://doi.org/10.14781/mcd.388279>
- Balibar, E., & Wallerstein, I. (2000). *İrk, ulus, sınıf: Belirsiz kimlikler* (N. Ökten, Trans.). Metis Yayınları.
- Baranaydın, M., Aydın, Y. & Tekbaş, G. (2023). *Ortaöğretim coğrafya 9 ders kitabı*. Gün Yayıncılık.
- Bassin, M. (1987). Race contra space: The conflict between german geopolitik and national socialism. *Political Geography Quarterly*, 6(2), 115-134. [https://doi.org/10.1016/0260-9827\(87\)90002-4](https://doi.org/10.1016/0260-9827(87)90002-4)
- Bauab, F. P. (2011). A Geografia Geral (1650) de Bernhardus Varenius: A modernidade da obra. *Raega-O Espaço Geográfico Em Análise*, (23), 191-220. <https://doi.org/10.5380/raega.v23i0.24837>
- Baulig, H. (1959). Géographie générale et géographie régionale. *Cahiers de Géographie Du Québec*, 3(6), 47-52. <https://doi.org/10.7202/020163ar>
- Bednarz, S. W., Bettis, N. C., Boehm, R. G., Downs, R. M., Marran, J. F., Morrill, R. W., & Salter, C. L. (1994). *Geography for life: National geography standards*. National Geographic Society.
- Bekaroğlu, C. E. (2016). Modern dünya sisteminin bilgi yapıları bağlamında coğrafya disiplini için bir dışsal tarih okuması. *Toplum ve Bilim Dergisi*, (136), 117-146.
- Bekaroğlu, C. E., & Barnes, T. (2021). Dictatorships and universities: The 1980 Turkish Military Coup d’état and Turkish geography. *Political Geography*, 91(10481), 117-146. <https://doi.org/10.1016/j.polgeo.2021.102481>

- Bekaroğlu, C. E., & Sarış, F. (2017). Türkiye’de fiziki coğrafya: Değişen disiplinler pratiğinin ampirik bir analizi. *Marmara Coğrafya Dergisi*, (35), 40-54. <https://doi.org/10.14781/mcd.291143>
- Bekaroğlu, C. E., & Yavan, N. (2013). Modern Türk coğrafyasının tarihsel gelişiminde batılı coğrafya okullarının etkisi: Ampirik bir analiz. *Beşeri Coğrafya Dergisi*, 1(1), 51-66.
- Bekaroğlu, C. E., & Yavan, N. (2018). Türk coğrafyacılığında dört gelenek: Ampirik bir analiz. *Marmara Coğrafya Dergisi*, (37), 79-93. <https://doi.org/10.14781/mcd.386126>
- Bekaroğlu, C. E., Yavan, N., & Anlı, Ö. F. (2019). Türk coğrafyacılığında jenerasyonlar: Disiplinin tarihine kohortçu bir yaklaşım. *Coğrafi Bilimler Dergisi*, 17(1), 55-77. <https://doi.org/10.33688/auchbd.502638>
- Best, J. W., & Kahn, J. V. (2005). *Research in education*. Pearson.
- Bilgili, M. (2016). Sosyal bilimler felsefesi açısından Türkiye’deki üniversitelerde bölgesel coğrafya öğretimi. *Marmara Coğrafya Dergisi*, (33), 114-134. <https://doi.org/10.14781/mcd.95974>
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40. <https://doi.org/10.3316/QRJ0902027>
- Burton, I. (1963). The quantitative revolution and theoretical geography. *Canadian Geographer/Le Géographe Canadien*, 7(4), 151-162. doi:10.1111/j.1541-0064.1963.tb00796.x
- Butt, G. (2020). *Geography education research in the UK: Retrospect and prospect*. Springer. <https://doi.org/10.1007/978-3-030-25954-9>
- Church, R. J. H. (2015). The French school of geography. In G. Taylor (Ed.), *Geography in the twentieth century*. Routledge.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education*. Routledge. <https://doi.org/10.4324/9781315456539>
- Couper, P. (2015). *A student’s introduction to geographical thought*. SAGE Publications.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- Cresswell, T. (2013). *Geographic thought a critical introduction*. Wiley-Blackwell.
- Darkot, B. (1955). Türkiye’nin coğrafi bölgeleri hakkında. *Türk Coğrafya Dergisi*, (13-14), 141-149.
- Darkot, B. (1966). *Türkiye’de coğrafi bölgelerin teşkilinde kriterlerin araştırılması*. İstanbul Teknik Üniversitesi Mimarlık Fakültesi Şehircilik Kürsüsü Yayını.
- de la Blache, P. V. (1908). *La France: Tableau géographique*. Librairie Hachette.
- Dikshit, R. D. (2011). *Geographical thought: A contextual history of ideas*. PHI Learning Private Limited.
- Entrikin, J. N. (2011). Region and regionalism. In J. A. Agnew & D. N. Livingstone (Eds.), *The SAGE handbook of geographical knowledge*. SAGE Publications. <https://doi.org/10.4135/9781446201091.n26>
- Erinç, S. (1945). Kuzey Anadolu kenar dağlarının Ordu-Giresun kesiminde Landşaft şeritleri. *Türk Coğrafya Dergisi*, (7-8), 119-140.
- Erinç, S. (1958). Bölge sınırlandırmasının esasları. In *II. İskân ve Şehircilik Haftası Konferansları* (pp. 69-94). Siyasal Bilgiler Fakültesi Yayınları.
- Erinç, S. (1973). *Cumhuriyet’in 50. yılında Türkiye’de coğrafya*. Başbakanlık Kültür Müsteşarlığı Cumhuriyetin 50. Yıldönümü Yayınları.
- Erinç, S., & Tunçdilek, N. (1952). The agricultural regions of Turkey. *Geographical Review*, 42(2), 179-203. <https://doi.org/10.2307/211384>
- Erol, O. (1993). Türkiye’nin doğal yöre ve çevreleri. *Ege Coğrafya Dergisi*, 7(1), 13-41.
- Fitzgerald, W. (1943). The regional concept in geography. *Nature*, 152(3869), 740-741. <https://doi.org/10.1038/152740a0>
- Fraenkel, J. W., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education*. McGraw-Hill Book Co.

- Fridrich, C. (2013). Von der befremdlichen persistenz der länderkunde im unterrichtsgegenstand geographie und wirtschaftskunde - ergebnisse einer empirischen untersuchung. *GW-Unterricht*, (132), 17-27.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Pearson.
- Gersmehl, P. (2008). *Teaching geography*. Guildford Press.
- Gilbert, A. (1988). The new regional geography in English and French-speaking countries. *Progress in Human Geography*, 12(2), 208-228. <https://doi.org/10.1177/030913258801200203>
- Gregory, D. (1988). *Geographical imaginations*. Blackwell.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., & Whatmore, S. (2009). Region. In *The dictionary of human geography*. John Wiley & Sons.
- Guelke, L. (1977). Regional geography. *The Professional Geographer*, 29(1), 1-7. <https://doi.org/10.1111/j.0033-0124.1977.00001.x>
- Gürsoy, C. R. (1950). Samsun gerisinde Karadeniz intikal iklimi. *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Dergisi*, 8(1-2), 113-129. https://doi.org/10.1501/Dtcfder_00000000273
- Gürsoy, C. R. (1957). Türkiye'nin coğrafi taksimatında yapılması icabeden bazı tashihler. *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Dergisi*, 15(1-3), 219-229. https://doi.org/10.1501/Dtcfder_00000000721
- Haggett, P. (1969). *Locational analysis in human geography*. Edward Arnold Publishers.
- Halseth, G. (1998). Re-situating regional geography in an undergraduate curriculum: An example from a new university. *Journal of Geography in Higher Education*, 22(3), 335-345. <https://doi.org/10.1080/03098269885741>
- Hanson, N. R. (1958). *Patterns of discovery*. Cambridge University.
- Hart, J. F. (1982). The highest form of the geographer's art. *Annals of the Association of American Geographers*, 72(1), 1-29. <https://doi.org/10.1111/j.1467-8306.1982.tb01380.x>
- Hartshorne, R. (1939). The nature of geography: A critical survey of current thought in the light of the past. *Annals of the Association of American Geographers*, 29(3), 173-412. <https://doi.org/10.2307/2561063>
- Hartshorne, R. (1959). *Perspective on the nature of geography*. The Association of American Geographers.
- Harvey, D. (2015). *Kozmopolitik ve özgürlük coğrafyaları* (Z. C. Başeren, Trans.). İstanbul Bilgi Üniversitesi Yayınları.
- Harvey, M. E., & Holly, B. P. (1981). Paradigm, philosophy and geographic thought. In M. E. Harvey & B. P. Holly (Eds.), *Themes in geographic thought* (pp. 11-37). Routledge.
- Holt-Jensen, A. (2017). *Coğrafya tarihi felsefesi ve temel kavramları* (E. Bekaroğlu, Ö. F. Anlı, H. Turut, & S. Tuysuz, Trans.). İdil Yayıncılık.
- International Geographic Union, Commission on Geographical Education. (1992). *1992 International Charter on Geographical Education*. <http://www.igu-cge.org/wp-content/uploads/2018/02/1.-English.pdf>
- International Geographic Union, Commission on Geographical Education. (2007). *2007 Lucerne Declaration on Geography Education for Sustainable Development*. <https://www.igu-cge.org/2007-declaration/>
- International Geographic Union, Commission on Geographical Education. (2015). *2015 International Declaration on Research in Geography Education*. <https://www.igu-cge.org/2015-declaration/>
- Johnston, R. (2005). Geography-coming apart at the seams?. In N. Castree, A. Rogers, & D. Sherman (Eds.), *Questioning geography: Fundamental debates* (pp. 9-26). Blackwell Publishing.
- Johnston, R., & Sidaway, J. D. (2005). *Geography & geographers: Anglo-American human geography since 1945*. Oxford University Press.

- Kant, I. (1999). *Pratik aklın eleştirisi* (İ. Kuçuradi, D. Gökberk, F. Akatlı, & M. Tuncay, Trans.). Türkiye Felsefe Kurumu.
- Kant, I. (2002). *Prolegomena gelecekte bilim olarak ortaya çıkabilecek her metafiziğe* (İ. Kuçuradi & Y. Örnek, Trans.). Türkiye Felsefe Kurumu.
- Karasar, N. (2016). *Bilimsel araştırma yöntemi kavramlar ilkeler teknikler*. Nobel Yayın Dağıtım.
- Koç, H., & Aksoy, B. (2012). Coğrafya eğitiminde bölge kavramı. *Marmara Coğrafya Dergisi*, (25), 319-339.
- Kökten, İ. K. (1945). Kuzeydoğu Anadolu prehistoryasında Bayburt çevresinin yeri. *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi*, 3(5), 465-505. https://doi.org/10.1501/Dtcfder_0000000661
- Kurtkaya, S., & Ünlü, M. (2023). Coğrafyada paradigmalara öğretmen yaklaşımları. *International Journal of Geography and Geography Education (IGGE)*, (48), 21-36. <https://doi.org/10.32003/igge.1230841>
- Lacoste, Y. (2014). *Coğrafya her şeyden önce savaş yapmaya yarar* (S. Sezer, Trans.). Ayrıntı Yayınları.
- Lambert, D., & Morgan, J. (2010). *Teaching geography 11-18: A conceptual approach*. McGraw-Hill Open University Press.
- Lee, D. M. (2023). How do narrative-based geospatial technologies contribute to the teaching of regional geography to preservice geography teachers?. *Journal of Geography*, 122(4), 93-101. <https://doi.org/10.1080/00221341.2023.2221244>
- Livingstone, D. N. (2011). Environmental determinism. In J. A. Agnew & D. N. Livingstone (Eds.), *The sage handbook of geographical knowledge*. SAGE Publications. <https://doi.org/10.4135/9781446201091.n28>
- Maarif Vekâleti. (1924). 1924 Coğrafya dersi öğretim programı. Maarif Vekâleti Yayınları.
- Maarif Vekâleti. (1938). 1938 Coğrafya dersi öğretim programı. Maarif Vekâleti Yayınları.
- Maarif Vekâleti. (1941). *Birinci Coğrafya Kongresi (6-21 Haziran 1941) raporlar, müzakereler, kararlar*. Ankara: Maarif Vekilliği Yayınları.
- Maarif Vekâleti. (1942). 1942 Coğrafya dersi öğretim programı. Maarif Vekâleti Yayınları.
- Martin, G. J. (2005). *All possible worlds: A history of geographical ideas*. Oxford University Press.
- Mertens, D. M. (2010). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. SAGE Publications.
- Minca, C. (2001). *Postmodern geography: Theory and praxis*. Blackwell.
- Ministry of National Education. (1957). 1957 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (1971). 1971 Coğrafya dersi taslak öğretim programı. MEB Yayınları.
- Ministry of National Education. (1973). 1973 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (1982). 1982 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (1983). 1983 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (1992). 1992 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (2005). 2005 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (2010). 2010 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (2011). 2011 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (2014). 2014 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (2017). 2017 Coğrafya dersi öğretim programı. MEB Yayınları.
- Ministry of National Education. (2018). 2018 Coğrafya dersi öğretim programı. <http://mufredat.meb.gov.tr/ProgramDetay.aspx?PID=336>
- Ministry of National Education. (2024a). 2024 Türkiye yüzyılı maarif modeli öğretim programları ortak metni. <https://mufredat.meb.gov.tr/>

- Ministry of National Education. (2024b). 2024 Türkiye yüzyılı maarif modeli coğrafya dersi öğretim programı. <https://mufredat.meb.gov.tr/>
- Minshull, R. (2017). *Regional geography: Theory and practice*. Routledge.
- Montello, D. R. (2003). Regions in geography: Process and content. In M. Duckham, M. F. Goodchild, & M. F. Worboys (Eds.), *Foundations of geographic information science* (pp. 173-189). Taylor & Francis.
- Nayak, A., & Jeffrey, A. (2013). *Geographical thought: An introduction to ideas in human geography*. Routledge. <https://doi.org/10.4324/9781315847528>
- Nir, D. (1987). Regional geography considered from the systems' approach. *Geoforum*, 18(2), 187-202. [https://doi.org/10.1016/0016-7185\(87\)90005-4](https://doi.org/10.1016/0016-7185(87)90005-4)
- Nir, D. (1990). *Region as a socio-environmental system: An introduction to a systemic regional geography*. Kluwer Academic Publishers. <https://doi.org/10.1007/978-94-009-0483-5>
- Oberhauser, A. (1995). Towards a gendered regional geography: Women and work in rural appalachia. *Growth and Change*, 26(2), 217-244. <https://doi.org/10.1111/j.1468-2257.1995.tb00169.x>
- Öngör, S. (1963). Siyasi coğrafya ve jeopolitik. *Ankara Üniversitesi SBF Dergisi*, 18(1), 301-317. https://doi.org/10.1501/SBFder_0000000688
- Özçağlar, A. (2003). Türkiye'de yapılan bölge ayrımları ve bölge planlama üzerindeki etkileri. *Coğrafi Bilimler Dergisi*, 1(1), 3-18.
- Özey, R. (2006). *Coğrafi bölgelerin siyasi bölgeler olarak algılanması ve sonuçları* [Paper presentation]. IV. Ulusal Coğrafya Sempozyumu, Ankara. https://tucaum.ankara.edu.tr/wp-content/uploads/sites/280/2015/08/semp4_3.pdf
- Özey, R. (2016). Bölgesel coğrafya serüveninde yanılgılar. *Marmara Coğrafya Dergisi*, (34), 98-106.
- Özgen, N. (2012). Bilim olarak coğrafya ve evrimsel paradigmaları. *Ege Coğrafya Dergisi*, 19(2), 1-25.
- Özgüç, N., & Tümertekin, E. (2000). *Coğrafya: Geçmiş, kavramlar, coğrafyacılar*. Çantay Kitabevi.
- Özgür, E. M. (2018). Türk beşeri coğrafyasında yenileşme eğilimleri: Değişim aktörlerinin perspektifinden bir değerlendirme. *International Journal of Geography and Geography Education*, (38), 142-170. <https://doi.org/10.32003/iggei.440888>
- Özgür, E. M. (2021). Türk beşeri coğrafyasında ihmal edilmiş bir paradigma: Hümanist coğrafya. *Ege Coğrafya Dergisi*, 30(1), 205-224. <https://doi.org/10.51800/ecd.892187>
- Özgür, E. M., & Yavan, N. (2013). Türk coğrafyacılarının iç hesaplaşması: Neden başaramadık? Nasıl başarabiliriz?. *Beşeri Coğrafya Dergisi*, 1(1), 14-38.
- Öztürk, M. (2007). Coğrafya: Gelişimi, içeriği, eğitimi. In S. Karabağ & S. Şahin (Eds.), *Kuram ve uygulamada coğrafya eğitimi* (pp. 1-53). Gazi Kitabevi.
- Öztürk, M. (2012). Coğrafya öğretmenlerinin postmodern coğrafya algıları. *Eğitim ve Bilim*, 37(166), 262-274.
- Öztürk, M., & Karabağ, S. (2012). Öğretmen görüşlerine göre coğrafyada paradigmlar. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 9(20), 421-444.
- Paasi, A. (1986). The institutionalization of regions: A theoretical framework for understanding the emergence of regions and the constitution of regional identity. *Fennia-International Journal of Geography*, 164(1), 105-146. <https://doi.org/10.11143/9052>
- Paasi, A. (1991). Deconstructing regions: Notes on the scales of spatial life. *Environment and Planning*, 23(2), 239-256. <https://doi.org/10.1068/a230239>
- Paasi, A. (2002). Place and region: Regional worlds and words. *Progress in Human Geography*, 26(6), 802-811. <https://doi.org/10.1191/0309132502ph404pr>
- Paasi, A. (2009). Regional geography. In R. Kitchen & N. Thrift (Eds.), *International encyclopedia of human geography* (Vol. 9, pp. 214-227). Elsevier. <https://doi.org/10.1016/B978-008044910-4.00736-7>

- Peet, R. (1985). The social origins of environmental determinism. *Annals of the Association of American Geographers*, 75(3), 309-333. <https://doi.org/10.1111/j.1467-8306.1985.tb00069.x>
- Peet, R. (1998). *Modern geographical thought*. Blackwell.
- Rees, P. W., & Legates, M. (2013). Returning “region” to world regional geography. *Journal of Geography in Higher Education*, 37(3), 327-349. <https://doi.org/10.1080/03098265.2013.769089>
- Senegačnik, J. (2018). Classification of regional and thematic approaches in school textbooks on the geography of Europe. *Acta Geographica Slovenica*, 58(2), 123-134. <https://doi.org/10.3986/ags.3408>
- Shaw, D. J. (2008). Bernhard Varenus’ geographia generalis and the rise of modern geographical studies in Russia. In M. Schuchard (Ed.), *Bernhard Varenus (1622-1650)* (pp. 271-287). Brill. <https://doi.org/10.1163/ej.9789004163638.i-351.95>
- Sözer, A. N. (1993). Herbert Louis’ nin “Landeskunde der Türkei” adlı yapıtı üzerine bazı düşünceler ve notlar. *Ege Coğrafya Dergisi*, 7(1), 1-12.
- Standish, A. (2018a). The place of regional geography. In M. Jones & D. Lambert (Eds.), *Debates in geography education*. Routledge.
- Standish, A. (2018b). What to teach? Conceptualising a geography curriculum. *Journal of Geographical Research*, (68), 73-88. https://doi.org/10.6234/JGR.201805_%2868%29.0004
- Standish, A. (2021). Geography. In A. S. Cuthbert & A. Standish (Eds.), *What should schools teach?*. UCL Press. <https://doi.org/10.2307/j.ctv14t475s.15>
- Steinberg, P. E., Walter, A., & Sherman-Morris, K. (2002). Using the internet to integrate thematic and regional approaches in geographic education. *The Professional Geographer*, 54(3), 332-348. <https://doi.org/10.1111/0033-0124.00334>
- Stern, D. I. (1992). Do regions exist? Implications of synergetics for regional geography. *Environment and Planning A: Economy and Space*, 24(10), 1431-1448. <https://doi.org/10.1068/a241431>
- Šabić, D., Golić, R., Vujadinović, S., & Joksimović, M. (2018). Present and future of new regional geography in the education school’s system and scientific discipline’s position at the University of Belgrade. *Zbornik Radova-Geografski Fakultet Univerziteta u Beogradu*, 66(1), 39-51. <https://doi.org/10.5937/zrgfub1866039S>
- Świątek, A., & Osuch, W. (2020). Regional geography education in Poland. In *(Teaching) regional geography: Proceedings of 27th central european conference* (pp. 173-186). Masaryk University Press. <https://doi.org/10.5817/CZ.MUNI.P210-9694-2020-14>
- Şahin, B. (2020). *Uluslararası Coğrafya Birliği’nin perspektifinden coğrafya eğitimi*. Pegem Akademi. <https://doi.org/10.14527/9786257228398>
- Şahin, B. (2022). Coğrafya eğitiminin beş teması. In S. Karabağ & S. Şahin (Eds.), *Coğrafya eğitiminin temel eksenleri*. Pegem Akademi.
- Tekeli, İ. (2012). Türkiye’de coğrafyacıların çok paradigmatlı bir bilim dünyasında yaşamayı öğrenmesi gerekiyor. In *TÜCAUM VI. Coğrafya Sempozyumu bildiriler kitabı* (pp. 348-354). Türkiye Coğrafyası Araştırma ve Uygulama Merkezi.
- Tomaney, J. (2009). Regional. In R. Kitchen & N. Thrift (Eds.), *International encyclopedia of human geography* (Vol. 9, pp. 214-227). Elsevier.
- Tuncel, M. (2011). Birinci Coğrafya Kongresi’nde Türkiye coğrafi bölgelerinin isimlendirilmesi, sınırlarının tespiti ve günümüze etkileri. *Türk Coğrafya Dergisi*, (57), 1-10.
- Türkez, K., Karakoç, M., Balşen, N., Pektaş, T., & Özdoğan, İ. (2023). *Ortaöğretim coğrafya 9 ders kitabı* (S. Zaman, Ed.). MEB Yayınları.
- Tüysüz, S., & Yavan, N. (2012). Bölgesel coğrafya yaklaşımı ve Türk coğrafyasındaki etkileri üzerine kritik bir değerlendirme. In *TÜCAUM VI. Coğrafya Sempozyumu bildiriler kitabı* (pp. 390-405). Türkiye Coğrafyası Araştırma ve Uygulama Merkezi.
- Unwin, T. (1992). *The place of geography*. Routledge.

- Wade, C. (2006). A historical case for the role of regional geography in geographic education. *Journal of Geography in Higher Education*, 30(2), 181-189. <https://doi.org/10.1080/03098260600717232>
- Wood, G. (1999). On the future of regional geography. *Geographica Helvetica*, 54(4), 199-207. <https://doi.org/10.5194/gh-54-199-1999>
- Yavan, N. (2014). Batı coğrafyası geleneği üzerine. In C. E. Bekaroğlu & A. Özdemir (Eds.), *Bir disiplinin iç dünyası modern Türk coğrafyası üzerine söyleşiler*. İdil Yayıncılık.
- Yazan, S., & Bekaroğlu, C. E. (2018). Türk coğrafyacılığının disiplinler ilişkileri üzerine ampirik bir araştırma. *Coğrafi Bilimler Dergisi*, 16(1), 37-67. https://doi.org/10.1501/Cogbil_00000000190
- Yıldırım, A., & Şimşek, H. (2018). *Sosyal bilimlerde nitel araştırma teknikleri*. Seçkin Yayınları.
- Yiğit, A. (1996). Türkiye'nin doğu bölgelerinin yeniden belirlenmesi hakkında düşünceler. *Fırat Üniversitesi Sosyal Bilimler Dergisi*, 8(1), 357-376.
- Yiğit, A. (2000). Türkiye'de daha kullanışlı coğrafi bölgeler oluşturma gerekçeleri ve öneriler. In 9. *Ulusal Bölge Bilimi/Bölge Planlama Kongresi bildiriler kitabı* (pp. 514-528). KTÜ.
- Yiğit, A. (2006). Geçmişten günümüze Türkiye'yi bölgelere ayırma çalışmaları ve yapılması gerekenler. In 4. *Ulusal Coğrafya Sempozyumu: Avrupa Birliği Sürecindeki Türkiye'de Bölgesel Farklılıklar bildiriler* (pp. 33-44). Türkiye Coğrafyası Araştırma ve Uygulama Merkezi.



Regional differences in teaching and research exchange based on social network analysis: a case study of geography teachers in city A and county B of Jiangsu province

Yiwen Tong¹, Ling Yuan², Qian Luo³, Shui Li⁴, Zhiqiang Yuan⁵, Chengfu Ye⁶, Jin Ji⁷, Xiaoxu Lu^{* 8}

Abstract

The regional differences in education have an impact on educational equity, making them an important issue for investigation. The importance of the regional differences is relatively apparent in extant research on teaching and how it is communicated. This study focuses on the characteristics of research communication among teachers within counties, examining their regional differences. Data on research communication are collected from 71 geography teachers in 9 units in City A and 97 geography teachers in 27 units in County B in the southern and northern regions of Jiangsu Province, China. Social network analysis (SNA) methods are used to compare network density, cohesive subgroups, centrality, and core-periphery structures. This study finds similarities and differences in the characteristics of research communication between the two regions. For example, the density of communication among geography teachers in County B is greater than it is in City A, and the network structure in City A is center-dispersed while in County B it is interwoven. The study also discusses the potential impact of research communication differences on education equity, conducting analysis and providing explanations for the observed differences. Furthermore, the study aims to develop a reference that could be used to eliminate educational inequality caused by regional differences and to prepare for the establishment of SNA standards for regional research communication.

Keywords

Social network analysis
Teacher
Exchange
Region
Difference

Article Info

Received: 03.28.2024
Accepted: 08.21.2025
Published Online: 10.30.2025

DOI: 10.15390/ES.2025.2498

¹ East China Normal University, School of Geographic Sciences, Shanghai, China, tongywecnu@foxmail.com

² East China Normal University, Faculty of Education, College of Teacher Education, Shanghai, China, 1093826281@qq.com

³ East China Normal University, Faculty of Education, College of Teacher Education, Shanghai, China, 1746363365@qq.com

⁴ Lianyungang Education Bureau, Teaching and Research Office, Lianyungang, China, LS0016@126.com

⁵ Changshu Education Bureau, Teaching and Research Office, Jiangsu, China, 345338327@qq.com

⁶ Donghai Education Bureau, Teaching and Research Office, Jiangsu, China, dhyfc@126.com

⁷ Suzhou Institute of Educational Sciences, Jiangsu, China, 957027544@qq.com

⁸ * **Corresponding author:** East China Normal University, School of Geographic Sciences, Shanghai, China, xxlu@geo.ecnu.edu.cn

Introduction

Educational equity is a crucial human rights issue, particularly in China, where there are significant disparities in regional development. The country's regional differences have led to pronounced educational inequality. Ongoing initiatives seek to address these imbalances both within and across regions. Promoting teaching and research exchanges at a regional level can facilitate knowledge transfer, resource sharing, and the enhancement of teacher professionalism. Moreover, bolstering these exchanges in less-developed areas can help mitigate educational disparities and promote equity.

Social network analysis (SNA), which describes the structure of group relations by modelling the interaction relationships between actors (Hu, 2011), is widely used in sociological research. In recent years, the method has been employed widely in the fields of intelligence, Internet technology, and enterprise economic management, and it is now being used in the field of education as well (Song, 2021). For example, Oshima et al. (2012) proposed an SNA application that uses learners' discourse as input data to study how learners develop knowledge through discourse, while Lin (2018) combined SNA with psychosocial testing to reveal the social relationships of college students. Combining SNA methods with psychosocial testing methods, they reveal the subjective and objective mechanisms of social relationships and learning network formation among college students. Tawileh (2016) demonstrated the substantial potential of SNA methods for developing an understanding of group dynamics in online virtual classrooms by utilizing information about instructor-student interactions in learning exchanges on social network platforms. Papanikolaou et al. (2020) demonstrated the positive effect of gamification of learning styles on the development of community learning networks, showing that network development has a positive effect on learning. Yan and Zhang (2017) analyzed the effects of professional segregation, adjustment stickiness, and professional demonstration in intercollegiate professional interactions in higher education institutions based on the theory of structural holes in a social network. While examining second-level colleges in Chinese universities, Zhong (2014) employed centrality theory to put forward a "strategy triangle" model that can be used to test the major decisions of colleges. Yang et al. (2011) studied the interactions of teachers at the interpersonal, inter-school, and regional levels in an urban-rural teachers' online learning community. Yang et al. (2017) analyzed the work, consultation, and affective networks of teachers in five elementary schools in Beijing, targeting all teachers in the city. Zhang et al. (2019) investigated climate concepts in geographic sciences, employing SNA to construct inter-conceptual relationship networks to develop a guide for the teaching of geography. Using communication data collected from students in a remedial class, Yuan et al. (2019) utilized SNA to identify core students in the class and take measures to improve the class by focusing on them. In summary, SNA is increasingly employed in the use of social network analysis to study of educational phenomena is gradually becoming a research hotspot, while the study of inter-school teaching and research by secondary school subject teachers has not yet matured. In this study, secondary school geography teachers in City A and County B of Jiangsu Province, China, were selected as research subjects, and by comparing the status of teaching and research exchanges in the two regions and analyzing their causes, we hope to develop reference material that can be used in efforts to eliminate educational inequities due to regional differences. Additionally, this study seeks to create a pre-preparation for the establishment of a standard for the analysis of regional teaching and research exchanges in social networks.

Method

Research ideas

This study focuses on geography teachers as the research subjects, aiming to explore common patterns in teaching and research exchanges across different disciplines. The selection of geography teachers as samples is representative: their subject status—positioned between core and non-core subjects—reflects the typical teaching workload and resource support available to secondary school teachers. This ensures that the research findings can be generalized to other subjects with similar class

schedules and instructional demands. Furthermore, the interdisciplinary nature of geography generates diverse needs for teaching and research collaboration, making it an ideal sample for observing patterns in teacher professional exchanges.

To obtain data for analysis, this study recruited geography teachers and research coordinators from a large area with high coverage within the counties of City A (county-level) in southern Jiangsu and County B in northern Jiangsu, China. The frequency of research exchanges between each group and other groups within their respective counties was investigated through online surveys. SNA methods were then employed to compare educational research exchange indicators, in order to identify commonalities and differences. This information was then used to make judgments, analyze observations, and propose countermeasures.

Content of the survey

The questionnaire was mainly used to collect information on the frequency of teaching and research exchanges between the groups, and the groups were asked to make a self-judgments on the frequency of teaching and research exchanges between themselves and the other groups. In some of the questions of the questionnaire, "1" meant "hardly ever," "2" meant "occasionally," "3" meant "usually," and "4" meant "more often." In others, "2" meant "occasionally," "3" meant "usually," "4" meant "more often," and "5" meant "often." The questionnaire was also designed to collect some demographic information on teachers, including gender, age, educational background, and professional title.

Sample recruitment

The sample recruitment and survey process design in this study complies with research ethics. The survey plan in City A has passed the ethical review of the Human Subjects Protection Committee at East China Normal University, while the survey plan in County B was approved by the Education Research Office of County B. Recruitment was completed in January 2020, and data collection was completed in October 2018 (Table 1). The education research offices in both regions provided support and assistance, resulting in a high recruitment rate was high. In City A, there were a total of 76 geography teachers and research coordinators, with 71 participants being ultimately recruited, resulting in a recruitment rate of 93.4%. All 97 geography teachers and research coordinators in County B were recruited, resulting in a 100% recruitment rate.

Table 1. Sample Attributes of City A and County B

Primary index	Secondary index	City A	County B
Sample size	/	71	97
Total Number of Units	/	9	27
Gender	Male	26 (36.6%)	53 (54.6%)
	Female	45 (63.4%)	44 (45.4%)
Age	20–25 years	6 (8.5%)	/
	26–30 years	14 (19.7%)	5 (5.2%)
	31–36 years	10 (14.1%)	22 (22.7%)
	37–45 years	21 (29.6%)	31 (32.0%)
	46–50 years	8 (11.3%)	24 (24.7%)
	51–55 years	9 (12.7%)	15 (15.5%)
	56–60 years	3 (4.2%)	/
	Average age	38.9	42.2
Education Background	Undergraduate	49 (69.0%)	92 (94.8%)
	Postgraduate	22 (31.0%)	5 (5.2%)
Professional Title	Full-time senior teacher	2 (2.8%)	/
	Senior teacher	24 (33.8%)	39 (40.2%)
	First-grade teacher	17 (23.9%)	31 (32.0%)
	Second-grade teacher	14 (19.7%)	24 (24.7%)
	Other	14 (19.7%)	3 (3.1%)

Methods of analysis

Using the collected data, this study generated separate original research and communication matrices for geography teachers in two different areas, performing binarization on the original research and communication matrices (Table 2). The value three was selected to represent "ordinary" communication frequency as the threshold, with values less than or equal to three being set to zero in the matrix. The zero values were used to indicate low communication frequency between two teachers, which was considered insufficient for establishing a stable, long-term research and communication relationship. Values greater than three were set to one, indicating a high communication frequency between two teachers that was considered sufficient for establishing a stable research and communication relationship. The binarized research and communication matrix served as the basis for subsequent series of data analysis operations. This study employed methods such as network density analysis, cohesive subgroup analysis, centrality analysis, and core-periphery structure analysis in SNA to progressively analyze the overall characteristics, group characteristics, and individual characteristics of the research and communication network within the region. Additionally, the methods were utilized to compare the characteristics of City A and County B. Data analysis was conducted using Excel 2021 and Ucinet 6.0.

Table 2. Results of the Construction of the Teaching and Research Exchange Matrix in City A

Original Teaching and Research Exchange Matrix										Binary Teaching and Research Exchange Matrix									
	X01	A01	A02	A03	B01	B02	...	H10	H11		X01	A01	A02	A03	B01	B02	...	H10	H11
X01		3	5	5	4	3	...	2	3	X01		0	1	1	1	0	...	0	0
A01	4		5	4	1	1	...	1	1	A01	1		1	1	0	0	...	0	0
A02	3	3		3	1	1	...	1	1	A02	0	0		0	0	0	...	0	0
A03	5	5	5		4	1	...	2	3	A03	1	1	1		1	0	...	0	0
B01	4	1	1	1		4	...	1	1	B01	1	0	0	0		1	...	0	0
B02	4	1	3	3	3		...	1	1	B02	1	0	0	0	0		...	0	0
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
H10	2	1	1	1	1	1	...		4	H10	0	0	0	0	0	0	...		1
H11	3	1	1	1	1	1	...	5		H11	0	0	0	0	0	0	...	1	

Evaluation indicators

Selection of indicators for analysis

Education development requires resources, and regional educational research is mainly accomplished through the optimization and integration of educational resources within the region. The process of integrating regional educational research resources comprises the allocation of individual resources to collective resources (Wang, 2019). Therefore, the level of regional educational research exchange is reflected in two dimensions: the "individual" and the "collective."

The "individual" level mainly refers to subject teachers and research coordinators within a region. Subject teachers are the core and main body of regional educational research, with a dual identity as researchers and practitioners. Research coordinators harmonize various relationships, help establish inter-school research mechanisms, and facilitate inter-school interactive exchanges (Zhang & Wu, 2012). They play an important role in teaching guidance, research promotion, teacher growth, and team-building. The number and quality of subject teachers, along with the coordinating ability and networking capability of research coordinators, will have a crucial impact on the level of regional educational research and exchange.

"The collective" level mainly refers to a group of teachers in a region who have a cooperative relationship, as well as the overall state of educational research and exchange in a region. The "educational research community" is a research group comprised of organizations or individuals with a common vision and who communicate, exchange, and share various educational research resources with each other during the research process, and jointly achieving specific research tasks. (Zhang & Wu, 2012). Building an educational research community helps to transition regional educational research transition from being singular and closed to being diverse and open. Moreover, an educational research community allows various forces to complement each other, cooperate for mutual benefit, and enhance the overall cohesion of regional educational research exchange, providing opportunities for innovation

and development in regional educational research. The scale, number, and level of cooperation within the educational research community also affect the level of regional educational research exchange.

This study will use indicators such as the density of educational research exchange networks, the density of cohesive subgroups, centrality, and core-ness to characterize the level of regional educational research exchange in a region. The definitions and functions of the related indicators are shown in Table 3.

Table 3. Definition and Function of Indicators

Dimension	Indicator	Definition	Function	
The collective	Network density	The closeness of the association of individual nodes in the network	Determining the overall teaching and research exchange profile of a region	
	Cohesive subgroup density	A cohesive subgroup refers to a secondary group formed by nodes with particularly close relationships in a network. The cohesion subgroup density can be divided into internal density and external density, reflecting the degree of closeness of the connections between nodes within the subgroup and the connections between different subgroups in the network.	To determine the existence of an educational research community in a region, as well as the communication tendencies among different groups within the network.	
Individual	Centrality	Degree centrality	The direct connections of a node with other nodes in a network	Characterizing an individual's activity and engagement in the network.
		Betweenness centrality	The ratio of the number of times a particular node is traversed by other nodes along the shortest path to the total number of shortest paths in the network.	Characterizing an individual's level of control over resources in the network.
		Closeness centrality	The ease of traversal from one node to another within the network.	Characterizing the ease of individuals conveying information and resources in the network.
	Core–periphery structure – core-ness	The core-ness divides the overall network into core areas and peripheral areas.	Assessing the relative position of individuals in the network to identify core individuals and peripheral individuals.	

Methodology for calculating indicators

1. Network Density

The range of network density is $[0, 1]$. A density value closer to one indicates that the connections between individuals in the network are closer, and the impact of network relationships on individuals is greater. The formula is:

$$D = \sum_{i=1}^k \sum_{j=1}^k d(n_i, n_j) / k(k-1) \quad (1)$$

where D represents network density, k stands for the number of nodes, and $d(n_i, n_j)$ indicates whether there is a direct link between nodes n_i and n_j . If there is a connection, it is represented by one (1), and if not, it is represented by zero (0).

2. Cohesive Subgroup Density

The CONCOR algorithm in Ucinet6.0 can be used to construct subgroups and obtain a subgroup density matrix. The values on the diagonal of the matrix represent the internal density of the subgroups, with a range of $(0, 1]$, where a value closer to one indicates a closer connection between the individuals in the subgroup. As close relationships are a prerequisite for subgroup formation, the internal density value cannot be zero.

The values outside the diagonal of the matrix represent the external density of the subgroups, that is, they represent the degree of closeness between a subgroup and other subgroups, with a range of $[0, 1)$. A value closer to one indicates relatively close intergroup communication among the individuals constituting these two subgroups. As external density cannot exceed internal density, the density value cannot be one. When the value is zero, it indicates that there is no communication between the individuals forming the two subgroups.

3. Degree centrality

A node with a high degree centrality can be considered to have a high level of participation in the network. Degree centrality can be divided into absolute degree centrality and relative degree centrality.

Absolute degree centrality is the number of other nodes directly connected to the node, and its magnitude is related to the number of nodes in the network. The range of values is $[0, +\infty)$. The formula is:

$$C_{ADi} = \sum_{j=1}^n X_{ij} \quad (2)$$

where C_{ADi} represents the absolute degree centrality of the node, X_{ij} indicates whether the nodes i and j are connected, and n stands for the number of nodes in the network.

The relative degree centrality is given by the ratio of a node's absolute degree centrality to its maximum possible degree centrality in a network. This index is commonly used to compare the degree centralities of nodes in networks of different sizes, with a value range of $[0, 1]$. The formula is:

$$C_{RD_i} = \frac{C_{ADi}}{n-1} \quad (3)$$

where C_{RD_i} represents the relative degree centrality of a node, C_{ADi} stands for the absolute degree centrality of a node, and n denotes the number of nodes in the network.

4. Betweenness centrality

Nodes with higher betweenness centrality are considered to have a stronger ability to control interactions between the other two nodes (Ping & Zong, 2010). Betweenness centrality can be divided into absolute betweenness centrality and relative betweenness centrality.

Assuming there are multiple shortcuts between a pair of nodes, and one of them passes through a third node, the betweenness centrality of the node being passed to this pair of nodes refers to the node's ability of the node to be on the shortcut between the pair of nodes, which is referred to as the "intermediary ratio" (Liu, 2019). The formula is:

$$b_{jk}(i) = \sum_{j < k} g_{jk}(i) / g_{jk} \quad (4)$$

where $b_{jk}(i)$ denotes the ability of the third node i to control the interaction between node j and node k , which is equal to the probability that node i is on a shortcut between node j and node k , (i.e., the degree of intermediation), g_{jk} represents the number of shortcuts from node j to node k , and $g_{jk}(i)$ denotes the number of shortcuts between node j and node k that exist through the third node i .

Based on the formula above, adding the betweenness centrality of the third node i with respect to all pairs of nodes in the network yields the absolute betweenness centrality of the node, which is related to the number of nodes in the network. Its value ranges from $[0, +\infty)$. The formula is:

$$C_{ABi} = \sum_j \sum_k b_{jk}(i) \quad (5)$$

where C_{ABi} represents the absolute betweenness centrality of a node, $b_{jk}(i)$ stands for the betweenness centrality of a node, and n denotes the number of nodes in the network.

The absolute betweenness centrality C_{ABi} of a node can reach a maximum value of $C_{\max} = (n^2 - 3n + 2) / 2$ when it is in a star-shaped network (Liu, 2019). Relative betweenness centrality is the ratio of the absolute betweenness centrality of a node in the network to its maximum possible betweenness centrality, which can be used to compare the betweenness centrality of nodes in networks of different scales, with a range of values ranging between $[0, 1]$. The formula is:

$$C_{RBi} = \frac{2C_{ABi}}{n^2 - 3n + 2} \quad (6)$$

where C_{RBi} represents relative betweenness centrality, C_{ABi} denotes absolute betweenness centrality, and n stands for the number of nodes in the network.

5. Closeness centrality

The larger the closeness centrality of a particular node, the greater the distance between this node and other nodes, which will correspondingly weakens its information resources, power, prestige, and influence (Liu, 2019). Closeness centrality can be categorized into absolute closeness centrality and relative closeness centrality.

Absolute closeness centrality is the sum of the shortcut distances of the point from all other nodes in the network, with its magnitude being dependent on the number of nodes in the network. The range of values range between $[0, +\infty)$. The formula is:

$$C_{APi}^{-1} = \sum_{j=1}^n d_{ij} \quad (7)$$

where C_{APi}^{-1} represents absolute closeness centrality and d_{ij} denotes the shortcut distance (i.e., the number of lines contained in the shortcut) between node i and node j .

The absolute closeness centrality of a node can reach a minimum value of $n-1$ in a star-shaped network containing n nodes. Relative proximity centrality is the ratio of the absolute proximity centrality of a node in the network to the minimum possible proximity centrality of the node, which can be used to compare the closeness centrality of nodes in networks of different sizes. The values range between $[0, +\infty)$. The formula is:

$$C_{RPi}^{-1} = \frac{C_{APi}^{-1}}{n-1} \quad (8)$$

where C_{RPi}^{-1} denotes the formula: C_{RPi}^{-1} is the relative closeness centrality, C_{APi}^{-1} stands for the absolute closeness centrality, and n represents the number of nodes in the network.

6. Core-periphery Structure: Core-ness

The range of core-ness values is $[0, 1]$, which can be obtained using the K-core algorithm in Ucinet 6.0. The closer the value is to one, the more tightly connected the node is to other nodes, indicating that it is in the core area of the network. Such nodes can rapidly disseminate information and resources, and play an important supporting role in the stability and functionality of the entire network. A core-ness value of one indicates that the node is directly connected to all other nodes in the network, often making it a leader or key decision-maker in the network. A core-ness value of zero indicates that the node has no connections to other nodes in the network, making it an isolated node.

Determination of Evaluation Criteria

Based on the selected indicators and the actual situation on the ground in the two regions, the following evaluation system of empirical indicators has been selected to facilitate the comparative analysis of the teaching practices and research exchanges between the two regions (Table 4).

Different types of networks have different density characteristics; therefore, the minimum standards for network density should be determined based on the specific network type and research background under investigation. Given the scale of the educational research and exchange networks in the two regions and the regular characteristics of local educational research and exchange activities, this study sets 0.15 as the minimum standard for network density because when 15% of teachers in a particular area communicate above the minimum standard, the overall connections in the educational research and exchange network are relatively close.

The subgroups obtained from cohesion subgroup analysis represent educational research communities. Educational research communities belong to the "small group" structure within the overall network, with a limited number of members, and as a result, a teacher's proportion within their respective educational research community is significant. Therefore, this study adopts 70% as the grading standard, considering that when the proportion of teachers from the same unit in a subgroup is less than 70%, there are clear differences among the unit affiliations of the subgroup members.

Because the size and quantity of subgroups in the two regions vary, when comparing the internal and external communication characteristics of the subgroups in the two regions, it is necessary to separately calculate the average values of internal and external density within the subgroups, representing the average level of communication closeness of all subgroups in that region. The density ratio of "average internal subgroup density" and "average external subgroup density" is then used to determine their communication characteristics. Because the communication tendency is significantly affected by the proportion of members from the same unit within the subgroups, this study suggests that when the internal density is greater than 0.7, the external density is less than 0.2, and the internal-external density ratio is greater than 3.5, there is a significant internal communication tendency.

Core teachers are classified based on their core-ness. The ideal structure of core teachers is characterized by the following: an appropriate number of teachers, a balanced gender ratio, a reasonable distribution of professional titles, and diverse educational levels. First, the number of core teachers should be able to meet the educational needs of the region, ensuring a balance between teaching quality and student numbers. The specific quantity depends on the scale and type of schools and on educational policies and needs. Generally, the number of core teachers should account for 20%–30% of the total number of teachers in the area. Second, a balanced gender ratio. Gender balance can provide diverse and wide-ranging perspectives, helping to create an inclusive and positive work environment in schools. In general, a male-to-female ratio of between 2:3 and 3:2 is considered an ideal range. Third, the proportion of professional titles in the core teacher group should be reasonably distributed and not overly concentrated on one title. This distribution can enhance the maintenance of a stable title structure and provide opportunities for development and promotion, serving as a motivating factor for teachers. The specific proportion can be determined based on the size and composition of the teacher group, but should be relatively balanced. Fourth, different educational backgrounds and levels lead to the input of diverse professional knowledge and teaching experiences, enhancing teaching quality and innovation capabilities. The specific proportion can be adjusted based on the size, responsibilities, and needs of the teaching team. Therefore, this study categorizes core teachers with a core-ness greater than 0.1 as core teachers in the region, those between 0.01 and 0.1 as semi-marginal teachers, and those with a core-ness less than 0.01 as marginal teachers, using the average core-ness to measure the dominance or weakness of the teacher group in the entire educational research and communication network.

Due to the different sizes of teaching and research exchange networks in the two regions, relative centrality values are required when comparing the centrality indicators of core and marginal teachers. Additionally, due to the quantitative differences between core and marginal teachers in the two regions, the average of the relative centrality values needs to be calculated to represent the average level of centrality. In this study, evaluation criteria were established for each of the three centrality indicators.

Table 4. Evaluation System of Indicators for Regional Teaching and Research Exchange Networks

Primary index	Secondary index	Evaluation criteria
Network density	/	≥0.15 Closely related <0.15 Loosely related
Ratio of subgroup members to the same unit	/	≥70% Essentially the same unit <70% Apparent difference in affiliation
Subgroup density	Average internal subgroup density	≥0.7 Close relationship 0.2–0.7 Moderate relationship <0.2 Loose relationship
	Average external subgroup density	≥0.7 Close relationship 0.2–0.7 Moderate relationship <0.2 Loose relationship
	Average internal–external density ratio	≥3.5 Significant propensity for internal communication 3.5–1 Balance of internal and external communication tendencies <1 Significant tendency towards external communication
Core–periphery structure	Core-ness	≥0.1 Core teachers 0.01–0.1 Semi-marginal teachers <0.01 Marginal teachers
	Average Core-ness	≥0.1 Play a leading role <0.1 Weak dominance
	Core–marginal teacher ratio	≥1:1 Well-structured faculty <1:1 Imbalance in teacher structure
Relative centrality	Average degree centrality	≥0.7 High level of participation 0.4–0.7 Moderate level of participation <0.4 Low participation
	Average betweenness centrality	≥0.02 Functioning 0.003–0.02 Weak effect <0.003 Almost no effect
	Average closeness centrality	>2.0 Low efficiency 1.0–2.0 Good efficiency <1.0 High efficiency

Results

1. Variations in the density of educational research exchanges between the two regions

To visually represent the differences in educational research exchanges between the two regions, the NetDraw function of Ucinet 6.0 was employed to generate community graphs for both regions (Figure 1 and Figure 2). In the graphs, black squares and codes represent individual teachers, and the connections between the squares represent the interactions between the teachers.

The results show that the network density of educational research exchanges in City A is 0.136, while County B has a higher density than City A, at 0.168. A value greater than 0.15 indicates that there are more closely-knit educational research exchange connections between teachers in County B than there are in City A (Table 5).

Both community graphs of the two regions show a dense middle section surrounded by a sparse area, indicating that teachers positioned in the center of the community graph are active and have high participation in the educational research exchange network, while those on the periphery have relatively few interactions with other teachers. Teachers with code X01 in both regions are educational

research coordinators positioned in the middle of the community graphs, which means that they have played an active role in their respective regions.

There are no isolated nodes in the community graphs of either location, indicating that geography teachers in both City A and County B have participated in the educational research exchange activities in their respective regions, and there are no isolated teachers.

Table 5. Density of Teaching and Research Exchange Networks between Geography Teachers in City A and County B

Indicator	Standard	City A	County B
Total theoretical relationships		2485	4656
Total actual relationship		339	780
Network density	>0.15	0.136	0.168

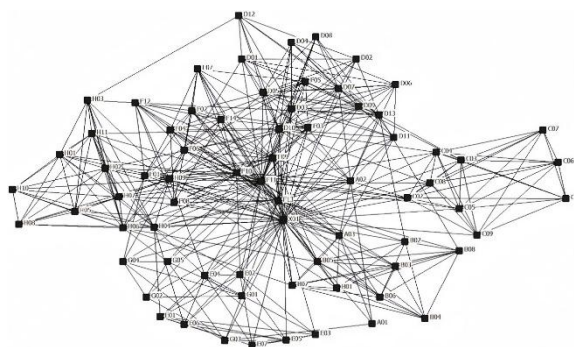


Figure 1. Community map in City A

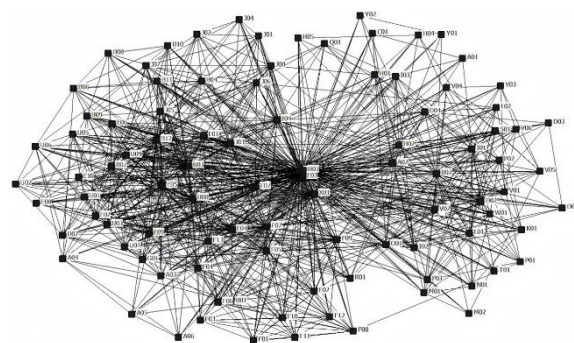


Figure 2. Community map in County B

2. Differences in patterns of teaching and research exchange between the two regions: City A has a pattern of exchanges within the same school, while County B has a pattern of exchanges between schools

In City A, 9 units participated in the study, forming 8 subgroups while in County B, 27 units participated in the study, forming 28 subgroups. The number of units and subgroups were similar, and the average ratio of colleagues from the same unit in subgroup A was 83%, with an average internal: external density ratio of 7.55 and both ratios far exceeded those of County B. This outcome indicates that compared to County B, City A engages more in educational and research exchanges within subgroups, forming a network of subgroups dominated by school-based educational and research exchanges. Simultaneously, County B exhibits a greater occurrence of inter-school exchanges than City A (Table 6).

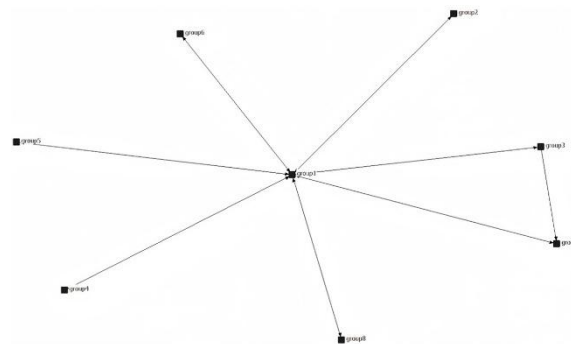
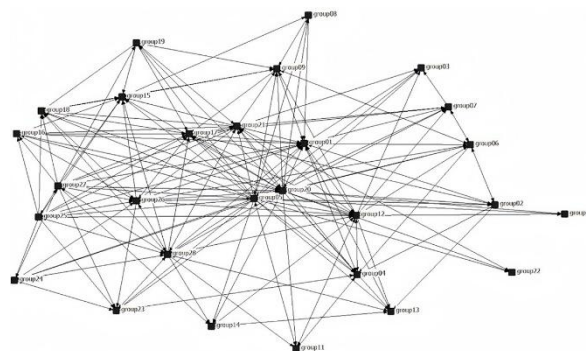
Table 6. City A and County B Subgroup Information Statistics

Indicator	Standard	City A	County B
Number of subgroups		8	28
Ratio of subgroup members from the same unit	<70%	83.0%↑	66.2%
Average subgroup internal density	>0.7	0.755	0.543↓
Average subgroup external density	>0.2	0.100↓	0.185↓
Average internal–external density ratio	<3.5	7.55↑	2.94

3. Differences in the structure of teaching and research exchanges between the two regions: City A's central–divergent pattern versus County B's network-interwoven configuration

To further assess the structural characteristics of the educational and research communities in the two regions, it is necessary to first binarize the subgroup exchange density matrix. Using the region's network density as a threshold, assigning a value of 0 to densities less than the network density is considered an indication of loose relationships that are below the average level, while assigning a value of 1 to densities greater than or equal to the network density is considered to be an indication of close relationships and frequent interactions. The resulting binarized matrix was imported into NetDraw to obtain subgroup structure diagrams of the two regions (Figure 3 and Figure 4).

From the subgroup structure diagram, it can be seen that City A has a central–divergent configuration, with a prominently central subgroup occupying a core position with connections to which all subgroups are related. In contrast, the remaining subgroups have very few connections among them. On the other hand, County B lacks a prominently central subgroup and exhibits several connections among the subgroups.

**Figure 3.** Structure of subgroups in City A**Figure 4.** Structure of subgroups in County B

4. Comparative Evaluation of Teacher Resource Structure and Role Dynamics: Core Teacher Influence and Marginal Teacher Characteristics in City A and County B

The proportion of core teachers in the two regions is the same, accounting for 26.8% of all teachers in the region. City A has fewer marginal teachers than County B. The proportion of marginal teachers in City A is 9.86%, while in County B it is 17.53%. The ratio of core teachers to marginal teachers in both regions is greater than 1:1, standing at 2.71:1 in City A and 1.53:1 in County B, indicating that the teacher structure in both regions is relatively reasonable and can meet the basic needs of daily teaching and ensure relatively stable teaching quality (Table 7).

The average centrality of core teachers in City A is greater than that of County B, indicating that the core teachers in City A have a more dominant role in the research and communication network than do those in County B.

Comparing the three types of centrality degree indicators, it can be observed that the average relative degree centrality of core teachers in County B is higher than that of core teachers in City A, indicating that the core teachers in County B have a higher level of participation in the research and communication network of the entire region than those in City A. Both regions have very low average relative betweenness centrality indicators. Nevertheless, these indicators in City A are slightly higher than they are in County B, indicating that communication between geography teachers in both areas is highly direct, and there are few instances of a need for other teachers as communication bridges. The average relative closeness centrality in City A is higher than it is in County B, indicating that the communication efficiency among core teachers in City A is lower than it is in County B. Marginal teachers in both regions have low participation in the research and communication network of their respective areas and almost no intermediary role. Consequently, there are very limited means for marginal teachers to obtain information or resources, resulting in low communication efficiency.

Table 7. Indicator Statistics for Core and Marginal Teachers in City A and County B

Primary index	Secondary index	Standard	City A		County B	
			Core teachers	Marginal teachers	Core teachers	Marginal teachers
Number of teachers	/		19	7	26	17
Percentage	/		26.8%	9.86%	26.8%	17.53%
Core-periphery structure	Core-periphery $\geq 1:1$ count ratio		2.71:1		1.53:1	
	Average Core-ness	≥ 0.1	0.207	0.005↓	0.171	0.006↓
Average degree Centrality	Absolute		19	8	42	15
	Relative	>0.4	0.271↓	0.114↓	0.438	0.156↓
Average Betweenness Centrality	Absolute		4.644	0.156	3.025	0.389
	Relative	>0.003	0.002↓	0.00006↓	0.001↓	0.00008↓
Average Closeness Centrality	Absolute		126.368	152.429	153.038	176.412
	Relative	<2.0	1.805	2.178↑	1.594	1.838

In terms of the personal attributes of core teachers, both in City A and County B, the predominant demographic is male middle-aged teachers with senior professional titles and undergraduate degrees. However, the gender ratio of core teachers in City A is more balanced than it is in County B. Additionally, the overall level of education among core teachers in City A is higher than it is in County B. Approximately 63.2% of core teachers in City A hold senior professional titles or higher, while in County B this proportion is 65.4%. Overall, the educational qualifications of core teachers in County B are slightly higher than those of teachers in City A. For marginal teachers in both City A and County B, the majority are young to middle-aged females with undergraduate degrees and first-grade or lower professional titles (Table 8).

Table 8. Statistics of the Personal Attributes of Core and Marginal Teachers in City A and County B

Primary index	Secondary index	City A		County B	
		Core teachers	Marginal teachers	Core teachers	Marginal teachers
Average age		43.9	37.1	44.6	39.9
Gender	Male	10	2	23	5
	Female	9	5	3	12
Education	Undergraduate	11	6	25	16
Background	Postgraduate	8	1	1	1
Professional Title	Full-time senior teacher	2	0	0	0
	Senior teacher	10	2	17	4
	First-grade teacher	3	1	6	6
	Second-grade teacher	2	4	2	6
	Something else	2	0	1	1

5. Differing main roles played by research coordinators in the two regions

The research coordinators in City A and County B are male teachers aged 51–55 and hold undergraduate degrees and senior teacher titles. The research coordinators in City A play a stronger leading role in the research and exchange network than their counterparts in County B (Table 9).

There are differences in the main roles played by the research coordinators in their respective regions. The degree centrality and betweenness centrality of research coordinators in City A are the highest in the research and exchange network in their region, while the closeness centrality is the lowest, indicating that research coordinators in City A are the most active participants in the research and exchange network and are responsible for facilitating communication and resource-sharing among teachers. The relative betweenness centrality of the research coordinator in County B is lower than the standard value, but it is the highest in their research and exchange network, indicating that the research coordinator in County B mainly acts as an intermediary in the research and exchange activities in the region. However, due to the advantage of the network's intertwined structure, the teachers in County B already have relatively extensive communication links, thus reducing the opportunity for the research coordinator to act as an intermediary.

Table 9. Statistics of the Centrality and Personal Attributes of Research Coordinators in City A and County B

Primary index	Secondary index	Standard	City A	County B
Concentricity			0.275	0.197
Degree centrality	Absolute		53	66
	Relative	>0.7	0.757	0.688↓
Betweenness centrality	Absolute		49.922	18.355
	Relative	>0.02	0.020	0.004↓
Closeness centrality	Absolute		87	126
	Relative	<2.0	1.24	1.31
Gender			Male	Male
Age			51–55	51–55
Education background			Undergraduate	Undergraduate
Professional Title			Senior teacher	Senior teacher

Discussion

1. Factors Contributing to Disparities in the Two Regions Between Teaching and Research Exchange Structures: Variances in Teacher Numbers and Modes of Teaching

The teacher community in City A is relatively concentrated: In addition to the regional teaching and research office where the research coordinators are located, each school in City A has at least 5 geography teachers—enough to meet most teaching requirements within the school. Combined with the convenience of communication within the same school, a close-knit teaching and research community is easily formed within the school, reducing the need for inter-school communication. Therefore, most subgroups in City A are formed by teachers from the same school, with very few connections between subgroups. These patterns are consistent with findings from other countries. For example, research in the United States has shown that intra-school teacher networks play a crucial role in professional development and resource sharing (Coburn & Russell, 2008). In Japan, the concept of 'lesson study' to foster teacher collaboration (Lewis et al., 2006). These cases underscore the importance of cultivating teacher networks, even within individual school settings. Research coordinators are professional curriculum leaders (Cui, 2009). In City A, the research coordinators are responsible for educational assessment and coordinating regional curriculum development. The subgroup where they are located plays a leading role in the research communication network, forming a central subgroup. In contrast, the distribution of teachers in County B is scattered: There are 18 schools in County B with less than 5 geography teachers, and 9 of them have only 1 geography teacher. The shortage of geography teachers has led to the need for schools to collaborate with teachers from other schools to compensate for the lack of internal communication. This frequent exchange has fostered connections among teachers and a pattern of formation of educational research communities. Consequently, subgroups in County B are mainly composed of teachers from multiple schools, resulting in a complex network of relationships between teachers from the same school and different schools. Although the connections between subgroups are not as close as internal connections, they serve to amplify the group effects. Correspondingly, the dominant role of the research coordinators' subgroup in County B is relatively weakened. Therefore, there is no clear central subgroup in County B.

From the perspective of the teaching and research modes of schools in the two regions, in City A, the teaching research groups are divided based on subjects, meaning that teachers of the same subject, regardless of grade, are categorized into the same teaching research group. This practice is conducive to promoting joint professional development among teachers of the same subject within a school and also facilitates the transition and integration of subject knowledge across different grades. While enhancing the cohesion of teachers of the same subject within a school, this categorization also

increases teaching efficiency, leading to the dual improvement in the professional qualities of teachers and the academic performance of students.

In conclusion, the internal connections within the subgroups in City A are sufficient to meet daily teaching needs, while there appears to be a low necessity for connections between subgroups due to factors such as competition among subjects. This teaching and research mode has led City A to form a central–divergent subgroup structure.

County B categorizes groups by grade level, meaning that teachers in the same grade level, regardless of subject, are divided into the same teaching and research group. Such a model of teaching and research facilitates a school's management of teachers, but it results in limited opportunities for communication between teachers of the same subject across different grade levels, leading to insufficient familiarity and difficulties in forming close teaching and research communication relationships within the school. Due to the insufficient internal connections within the subgroups in County B to meet daily teaching needs, teachers turn their attention to teachers of the same subject and grade level from other schools and develop teaching and research exchange relationships with them. This practice contributes to the synergistic development of schools within the region, leading County B to form a network-interwoven subgroup structure.

2. Main Factors Impacting Core Teachers' Centrality and Roles: Variances in Educational Research Community Membership and Teaching/Research Exchange Structures across the Two Regions

City A is characterized by a central–divergent subgroup structure, with most members of each subgroup coming from the same institution. Core teachers in this city tend to engage in communication activities within their institutions, resulting in low overall participation in the network and creating barriers to communication between teachers from different institutions. As coordinators of educational development in the area, research coordinators utilize their connections to act as bridges for facilitating communication and the transfer of educational resources between different schools and teachers, thereby changing the situation. As a result, research coordinators in City A stand out in terms of their participation, intermediary role, and communication efficiency.

In contrast, County B has a network-interwoven subgroup structure, where different schools and teachers spontaneously form collaborative relationships. Information and resources between schools and teachers are typically shared, and core teachers have many opportunities for communication. Research coordinators in County B only need to act as intermediaries between teachers or teaching and research communities that lack the conditions for communication, without excessively interfering with existing connections. Therefore, the research coordinators in County B excel specifically in the intermediary role. Furthermore, compared to City A, communication efficiency among core teachers in County B is higher due to the county's network-interwoven structure, which provides broad pathways for information and resource transmission.

3. Social factors and female psychological characteristics influencing the vulnerability of young to middle-aged female teachers to marginalization

These factors and characteristics can be analyzed through the perspective of two aspects: social and psychological attributes of women. Studies show that professional women in China experience significant levels of role stress and that female role stress is significantly higher than that of males (Su et al., 2011). Moreover, high-end professional groups exhibit gender differences in work–family conflict, with women experiencing more severe effects from these conflicts than men (Li & Sun, 2013). On one hand, young to middle-aged female teachers face high expectations from families, schools, and society and bear the burden of family life and the heavy pressure of teaching. On the other hand, as society and the education sector undergo significant changes, these teachers also encounter difficulties in adapting to and changing their professional roles. In summary, role stress and role conflict make it difficult for young to middle-aged female teachers to balance family and work, hindering their active participation

in teaching and research activities. This stress and conflict lead to a lag in updating teaching knowledge and improving teaching skills, resulting in arrested career development. A prolonged sense of poor achievement makes this group prone to professional burnout, which gradually leads to their marginalization.

4. Consequences of differences in teaching and research exchanges and the impact of these consequences on educational equity

The achievement of educational equity depends on the elimination of regional disparities in educational levels. However, differences in teaching and research exchanges in different regions can lead to disparities in education levels, resulting in educational inequality. Vescio et al. (2008) found that teacher collaboration within and across schools significantly improves student outcomes and reduces educational disparities. Similarly, in Germany, teacher networks have been shown to facilitate the sharing of innovative pedagogies and resources, thereby promoting more equitable education systems (Kolleck et al., 2021).

Differences in the density and structure of teaching and research exchanges are key factors in increasing the disparity in educational levels within regions, which is particularly evident in regions with a central–divergent structure. Due to the apparent pattern followed by internal exchanges, the overall network density of teaching and research communication in regions with a central–divergent structure is low, which is not conducive to the sharing of educational resources and makes it difficult to achieve collaborative development among schools. Furthermore, schools with superior teaching facilities and welfare conditions form a clear "centralization effect," attracting high numbers of well-qualified teachers, thus widening the gap between schools in the region.

In regions with a network-interwoven structure, the lack of internal exchange conditions makes teachers and schools closely connected, and it is easy for teachers to form partnerships, thus promoting the synergistic development of schools in these regions and preventing a significant disparity in education levels.

The effective role of key teachers in the teaching and research communication network is crucial in improving regional education levels. Both core teachers and research coordinators are key players in regions, occupying a central position in the entire teaching and research communication network and thus possessing great influence. The effective performance of duties by these players is of vital importance in narrowing the education gap in regions and promoting educational equity.

Conclusion

Research Findings

This paper utilizes social network analysis to compare the characteristics and disparities of geography teachers' teaching and research exchanges in two regions: City A and County B and identifies the factors influencing the characteristics and causes of the disparities. A standard system for evaluating the level of regional teaching and research exchange is initially established at three levels: overall, group, and individual, and focus is placed on the overall level, group performance, and individual characteristics. The results of the study indicate that there are differences in the level of teaching and research exchanges between regions A and B, which can be summarized as follows: Firstly, the number of teachers and teaching and research modes influence the internal and external tendencies and structural patterns of teaching and research exchanges. Secondly, the variability of teachers' personal qualities and the structure of teaching and research exchanges has an impact on the characteristics and roles of core teachers in a region. Additionally, the differences in the research and communication structure lead to different role positioning for research coordinators in a region.

In summary, this study examines the impact of teacher professional exchanges on educational equity from a regional disparity perspective, revealing the relationship between teaching and research network structures and educational achievement gaps. This approach provides new insights for educational equity research, highlighting the crucial role of teacher collaboration in narrowing educational disparities.

Practical Recommendations

Based on the key findings regarding regional network structures and teacher exchange patterns, the study propose the following actionable measures:

1. Promote cross-school teaching and research networks: Establish inter-school collaboration platforms, particularly in resource-limited areas, to facilitate resource sharing and exchange of pedagogical experiences among teachers. For instance, regional teaching and research activities or online collaborative platforms can be utilized to break down barriers between schools.
2. Enhance professional support for research coordinators: Provide specialized training programs to improve coordinators' organizational and coordination skills, enabling them to better serve as bridges in teaching and research activities.
3. Encourage discipline-specific collaboration: Given geography's unique characteristics (e.g., interdisciplinary knowledge integration, field investigation requirements), schools should support geography teachers in developing cross-school and cross-disciplinary collaborative research activities.
4. Support career development of early/mid-career female teachers: Implement measures such as reasonable workload reduction and career development opportunities (e.g., mentorship programs) to better integrate this group into teaching and research networks and prevent marginalization. In summary, this study suggests that a region should prioritize teachers' research and communication to improve their teaching levels.

Study Limitations

The current research design presents two primary constraints:

1. Limited sample scope: The study focused solely on two regions in Jiangsu Province, which may not fully represent conditions in other areas (particularly regions with significant disparities in educational resource distribution).
2. Narrow disciplinary perspective: The research exclusively examined geography teachers without comparative analysis of other subject areas.

Future Research Directions

Building upon these limitations, the following research trajectories emerge as particularly valuable:

1. Expand the research scope: Incorporate additional regions (including other areas in China or international cases) to examine variations in teacher professional exchange patterns across different socioeconomic contexts.
2. Compare multidisciplinary collaboration models: Conduct comparative analyses between single-discipline and cross-disciplinary teacher collaboration approaches to identify discipline-specific challenges and opportunities.

References

- Coburn, C. E., & Russell, J. L. (2008). District policy and teachers' social networks. *Educational Evaluation and Policy Analysis*, 30(3), 203-235. <https://doi.org/10.3102/0162373708321829>
- Cui, Y. (2009). 论教研室的定位与教研员的专业发展 [On position of teaching research section and professional development of its members]. *Journal of Shanghai Educational Research*, (8), 4-8. <https://doi.org/10.3969/j.issn.1007-2020.2009.08.002>
- Hu, X. (2011). 信息化环境中区域教研协作的社会网络分析 [Social network analysis of regional collaborative teaching and research in an informationized environment]. *E-Education Research*, 32(7), 23-29.
- Kolleck, N., Hartmann, U., & Grasel, C. (2021). Teacher's professional collaboration and trust relationships: An inferential social network analysis of teacher teams. *Research in Education*, 111(1), 89-107. <https://doi.org/10.1177/00345237211031585>
- Lewis, C., Perry, R., & Murata, A. (2006). How should research contribute to instructional improvement? The case of lesson study. *Educational Researcher*, 35(3), 3-14. <https://doi.org/10.3102/0013189X035003003>
- Li, X., & Sun, M. (2013). 高端职业群体工作-家庭冲突的双元形成机理及其社会性别差异研究-基于某直辖市的调查数据 [The dual formation mechanism and gender difference of the senior talents' work-family conflict from the data of a metropolis]. *Future and Development*, 34(8), 59-65+43. <https://doi.org/10.3969/j.issn.1003-0166.2013.08.012>
- Lin, S. (2018). Evolution of civil engineering students' friendship and learning networks. *Journal of Professional Issues in Engineering Education and Practice*, 144(4). [https://doi.org/10.1061/\(ASCE\)EI.1943-5541.0000390](https://doi.org/10.1061/(ASCE)EI.1943-5541.0000390)
- Liu, J. (2019). 整体网分析：UCINET软件实用指南 [Lecture notes on whole network analysis: A guide to UCINET software application]. People's Publishing House.
- Oshima, J., Oshima, R., & Matsuzawa, Y. (2012). Knowledge building discourse explorer: A social network analysis application for knowledge building discourse. *Educational Technology Research and Development*, (60), 903-921. <https://doi.org/10.1007/s11423-012-9265-2>
- Papanikolaou, K. A., Tzelepi, M., Moundridou, M., & Petroulis, I. (2020). Employing social network analysis to enhance community learning. In V. Kumar & C. Troussas (Eds.), *International Conference on Intelligent Tutoring Systems* (pp. 342-352). Springer. https://doi.org/10.1007/978-3-030-49663-0_41
- Ping, L., & Zong, L. (2010). 基于社会网络中心性分析的微博信息传播研究-以Sina微博为例 [Research on microblog information dissemination based on sna centrality analysis - A case study with sina microblog] *Documentation, Information & Knowledge*, (6), 92-97. <https://doi.org/10.13366/j.dik.2010.06.004>
- Song, J. (2021). 社会网络分析在教育领域的应用 [The application of social network analysis in the field of education]. *Technology Wind*, (8), 169-172. <https://doi.org/10.19392/j.cnki.1671-7341.202108081>
- Su, Z., Zheng, Y., & Yang, W. (2011). 知识型员工工作压力结构探索性研究 [Exploration on the construction of knowledge employee' work stress]. *China Journal of Health Psychology*, 19(9), 1061-1065.
- Tawileh, W. (2016). Evaluating virtual collaborative learning platforms using social network analysis. In *2016 Sixth International Conference on Digital Information Processing and Communications (ICDIPC)* (pp. 80-86). Curran Associates. <https://doi.org/10.1109/ICDIPC.2016.7470796>
- Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, 24(1), 80-91. <https://doi.org/10.1016/j.tate.2007.01.004>

- Wang, N. (2019). 从个体资源到集体资源-基于资源整合的区域教研思考[Individual resources to collective resources: Reflections on regional teaching and research based on resource integration]. *Theory and Practice of Education*, (11), 22-24.
- Yan, G., & Zhang L. (2017). 高等教育校际专业交往能力研究——给予社会网络结构洞理论[A study on the capacity of inner-university communication for major development of higher education institutes: Based on structural holes approach of social net]. *Research in Educational Development*, 37(9), 1-10.
- Yang, C., Mao, Y., Cao, H., & Tian, J. (2017). 学校内部教师社会网络现状及对学校管理改进的启示-项基于社会网络分析的研究 [The current situation of school teachers' social networks and enlightenment for school management improvement: A research based on social network analysis]. *Journal of Schooling Studies*, 14(3), 68-77+3. <https://doi.org/10.3969/j.issn.1005-2232.2017.03.009>
- Yang, Y., Guo, S., & Tong, H. (2011). 城乡教师的网络学习共同体互动特征研究 [A study on the interactive characteristics of rural and urban teachers' online learning communities]. *China Educational Technology*, (11), 42-46. <https://doi.org/10.3969/j.issn.1006-9860.2011.11.009>
- Yuan, L., Lu, X., & Zhang, M. (2019). 改变地理学困生学习状况的实验研究——以成都市棠湖中学初中生为例[An experimental study of improving the students with difficulty in learning geography: A case study of Tanghu Junior Middle-School Students in Chengdu]. *Theory and Practice of Education*, (23), 53-56.
- Zhang, L., & Wu, J. (2012). 构建教研共同体：区域教研机制建设新途径[Constructing a research community: A new approach to building regional educational research mechanisms]. *Hebei Education*, (5), 34-35.
- Zhang, X., Yuan, L., Zeng, M., Wang, Y., & Lu, X. (2019). 气候概念体系的关系网络分析[Relationship network analysis of climate conceptual framework]. *Teaching and Learning in Primary and Secondary Schools*, (7), 58-62.
- Zhong, Y. (2014). 社会网络视角下二级学院决策的策略选择-以W学院专业优化决策为例[Strategy selection of school's decision-making based on the perspective of social network: Exemplified by the decision-making of W School on professional optimization]. *Research in Educational Development*, 34(1), 17-23.



The mediating role of psychological capital in the relationship between effective counselor characteristics and subjective well-being at work and professional quality of life *

Seda Gündoğdu ¹, Fatma Sapmaz ²

Abstract

This study aimed to determine the mediating role of psychological capital in the relationship between effective counselor characteristics, subjective well-being at work (work engagement) and professional quality of life of counselors. Conducted in a relational survey model, the study involved 333 counselors. Research data were collected with the "Effective Counselor Characteristics Assessment", "Psychological Capital", "Professional Quality of Life" and "Utrecht Work Engagement" scales. The PROCESS Macro regression-based bootstrapping technique was used to analyze the mediation models created for the purpose of the study. The analysis revealed that all direct and indirect effects were significant. The findings related to direct effects show that effective counselor characteristics and psychological capital significantly predict subjective well-being at work (work engagement) and professional quality of life (compassion satisfaction, burnout, and compassion fatigue). When examining the indirect effects, it was found that psychological capital partially mediates the relationship between effective counselor characteristics and subjective well-being at work (work engagement) as well as compassion satisfaction. Psychological capital fully mediates the relationship between effective counselor characteristics and burnout and compassion fatigue. The findings reveal the importance of not only effective counselor characteristics but also psychological capital in professional quality of life and subjective well-being at work (work engagement).

Keywords

Effective counselor characteristics
Psychological capital
Professional quality of life
Subjective well-being at work
Work engagement

Article Info

Received: 09.03.2023
Accepted: 06.30.2025
Published Online: 10.16.2025

DOI: 10.15390/ES.2025.2455

Introduction

With the reflections of positive psychology on business life, the perspective has emerged that eliminating dysfunctional conditions in working life will not lead to positive outcomes such as increased performance and commitment to work (Caza & Caza, 2008). In this direction, it has become important

* This article is derived from Seda Karaçam's Master's thesis entitled "The mediator role of psychological capital in the relationship between effective counselor characteristics with subjective well-being at work and professional quality of life", conducted under the supervision of Fatma Sapmaz.

¹ Independent Researcher, Türkiye, karacamseda@gmail.com

² İzmir Bakırçay University, Faculty of Humanities and Social Sciences, Department of Psychology, İzmir, Türkiye, fatma.sapmaz@bakircay.edu.tr

to investigate the factors that that can foster positive outcomes such as an increase in the performance and capacity of employees (Luthans, 2002). This emphasis on positive concepts in working life has led to a rapid increase in studies on subjective well-being at work (work engagement) (Bakker & Albrecht, 2018; Bakker & Demerouti, 2008; Eryılmaz & Doğan, 2012) and professional quality of life (Laverdière et al., 2019; Lawson & Myers, 2011; Stamm, 2010). This trend is a natural consequence of the positive reflections of subjective well-being at work (work engagement) and professional quality of life at both individual and organisational levels (Ekşi et al., 2017; Şantaş et al., 2018; Tanrıverdi & Sarıhan, 2013; Yeşiltaş et al., 2019).

Subjective well-being at work (work engagement) is defined as a positive and satisfying mood related to work, characterised by a person's dedication, absorption, vigor (Schaufeli et al., 2006). In this context, subjective well-being at work (work engagement) serves as an indicator of positive cognitive and emotional evaluations reflecting the relationship of employees with their jobs (Eryılmaz & Doğan, 2012). Similar to subjective well-being at work (work engagement), professional quality of life reflects professionals' cognitive and emotional evaluations of their work life, encompassing both positive and negative aspects. It is shaped by the dynamic interaction of these evaluations (Stamm, 2010). Compassion satisfaction, one of the core elements of this interaction, reflects the positive (Stamm, 2010). Compassion satisfaction, which is one of the basic building blocks of this interaction, reflects the positive aspect of evaluations of work life, while compassion fatigue and burnout reflect the negative aspect, and the interaction of these factors results in the general picture of professional quality of life (Larsen & Stamm, 2008). Therefore, professional quality of life reflects the balance between negative situations—such as difficulties, pressures, and problems encountered in professional life—and positive experiences, including satisfaction, success, and personal development at work.. These evaluations of work life not only contribute positively to the individual well-being of professionals (Patel, 2018; Tanrıverdi & Sarıhan, 2013), but also contribute to individual and organisational success by increasing work productivity (Ekşi et al., 2017; Şantaş et al., 2018; Yeşiltaş et al., 2019). These contributions indicate the place of both concepts in industrial and organisational psychology in recent years and their importance for employees.

Although subjective well-being at work (work engagement) and professional quality of life have an important place for all employees, it gains a more special dimension for mental health professionals and helpers (Mamacı, 2021; Morse et al., 2012). Mental health professionals—such as psychiatrists, psychotherapists, psychologists, clinical psychologists, and psychological counselors—are exposed to high levels of secondary traumatic experiences due to the nature of their work (Figley, 2002). As a matter of fact, there is evidence in studies on mental health professionals that professionals are at risk for emotional strain, burnout and secondary trauma stress (Ben-Zur & Michael, 2007; Zara & İçöz, 2015). These risks can be considered as factors that negatively affect subjective well-being at work (work engagement) and professional quality of life. Sharifian (2019) points out that these difficulties faced by mental health workers increase risk factors that negatively affect professional quality of life such as compassion fatigue and burnout in helpers. Psychological counselors, who are an important part of mental health services, can be considered as one of the professional groups that frequently face these challenges and risks (Skovholt, 2012). One of the main reasons for this evaluation is that counselors interact directly with pain, sorrow and traumatic life events due to the nature of their profession (Figley, 2002). Another reason is that the counseling process is not only based on a mutual therapeutic relationship between the help provider and the help recipient, but can also be likened to a mother-child relationship that provides unilateral care (Skovholt, 2012). This situation may cause counselors to have difficulty in maintaining the balance between helping others and allocating time for their own needs (Yerin Güneri et al., 2017). However, counselors can experience compassion satisfaction in line with both their helping role and the meaning of their work and can develop together with their clients in the process (Linley & Joseph, 2007). These positive and negative experiences of counselors regarding their professional life can have an impact on both their subjective well-being at work (work engagement) and their professional quality of life, which is characterised by compassion satisfaction, burnout, and compassion fatigue (Arslan, 2018; Mullen et al., 2017).

Subjective well-being at work (work engagement) and professional quality of life are important not only for counselors who provide help services, but also for their effects on clients. This is because the mutual interaction of both parties in the psychological counseling process influences the positive and negative experiences in work life and this effect continues in a reciprocal cycle. The first stage of this cycle can be considered as the risk of counselors exceeding their own limits when they share the emotional burdens of their clients and this leads to negative consequences such as burnout and compassion fatigue (Boscarino et al., 2010; Farber & Heifetz, 1981; Stamm, 2010). The second stage can be exemplified by the fact that the effectiveness of the service that counselors provide to the clients will decrease due to the fact that they are in burnout and compassion fatigue. As a matter of fact, when the literature is examined, it is noteworthy that burnout leads to negative consequences such as depersonalisation, fatigue, loss of motivation and decrease in achievement (Maslach & Leiter, 2016), while compassion fatigue brings problems such as emotional fatigue, loss of energy, decrease in performance, decrease in willingness to help and empathy (Dikmen & Aydın, 2016; Hiçdurmaz & Arı İnci, 2015). Consequently, this negatively affects the therapeutic relationship with clients, diminishes the effectiveness of professional support provided, and perpetuates a vicious cycle that undermines both the counselors' professional quality of life and their subjective well-being at work (work engagement). On the other hand, the positive experiences of counselors in their professional life play a preventive role against the negative vicious circle and also contribute to its transformation into a positive one. As a matter of fact, Stamm (2010), in his professional quality of life model developed for helpers, emphasises that those helpers can develop positive emotions as a result of the professional services they provide and that this can increase their subjective well-being at work (work engagement) and compassion satisfaction levels. Therefore, negative emotions and experiences that counselors encounter in their professional lives can negatively affect their effectiveness and motivation to help (Murren & Gutierrez, 2016), while positive emotions and experiences can have a positive effect, enhancing their effectiveness and motivation (Capella & Andrew, 2004).

As a result, subjective well-being at work (work engagement) and compassion satisfaction -the key positive component of professional quality of life -- support the development of positive situations such as increased motivation and performance by enabling employees experiencing positive emotions in their professional lives and taking on more responsibility (Çankır & Arıkan, 2019; Orhaner & Mutlu, 2018; Yeşiltaş et al., 2019). In light of this, it is important to investigate what factors may affect counselors' subjective well-being at work (work engagement) and their professional quality of life. In the literature, it is noteworthy that there are limited studies with similar content on this effect for mental health professionals and counselors (e.g., Laverdière et al., 2019; Odacı et al., 2021; Sharifian, 2019; Thompson et al., 2014). In addition to this limitation, a review of studies conducted with mental health professionals suggests that factors such as **effective counselor characteristics** (Özdamar & Özeke Kocabaş, 2023; Yıldırım Kurtuluş & Yüksel Şahin, 2022) and **psychological capital** (Javaheri, 2017; Koller & Hicks, 2016; Mamacı, 2021) are among the key elements that help explain and enhance both counselors' subjective well-being at work (work engagement) and their professional quality of life.. The first of these factors, effective counselor characteristics, can be conceptualised as the basic sources of competence and effectiveness that increase the efficiency of the professional help process and are formed by the combination of technical knowledge and personal characteristics of counselors (Cormier & Cormier, 1991; İkiz & Totan, 2014). As this definition implies, effective counselor characteristics play a central role in both fulfilling the basic responsibilities of the counseling process and actively managing the difficulties of the process (Cormier & Cormier, 1991; İkiz & Totan, 2014). These characteristics, which enable counselors to use their professional competencies and provide effective support, have a function that strengthens positive experiences in professional life and reduces negative experiences. In fact, the findings of the study conducted by Özabacı et al., (2004), which revealed that counselors' burnout levels increased as they moved away from the characteristics that would make them effective, also support this. Similarly, research findings showing that effective counselor characteristics have a positive effect on counselors' professional pride and satisfaction (Özdamar & Özeke Kocabaş, 2023; Yıldırım Kurtuluş & Yüksel Şahin, 2022) support that counselors with these characteristics develop positive feelings about

professional life and increase their compassion satisfaction. Based on this, it can be suggested that the investments that counselors will make in themselves at the point of being more effective professionally will strengthen their positive experiences related to professional life. One of these investments is psychological capital (Koller & Hicks, 2016). As a matter of fact, psychological capital has an important role in Positive Organisational Behaviour, which focuses on personal resources and positive qualities of the organisation in the workplace. Psychological capital, which represents a high-level structure in Positive Organisational Behaviour, is considered as personal power resources that increase the functionality of employees with the elements of self-efficacy, hope, optimism and resilience that constitute the basic components of this structure (Luthans & Youssef, 2004; Van Den Heuvel et al., 2010). Therefore, effective counselor characteristics, which can be considered as an important investment for counselors, play a role that contributes to both the formation and strengthening of psychological capital characterised by self-efficacy, hope, optimism and resilience. In this context, **effective counselor characteristics** can be seen as a significant investment that supports both the development and reinforcement of psychological capital. Indeed, the findings of Yayla and İkiz (2017), which demonstrated a positive relationship between effective counselor characteristics and the self-efficacy dimension of psychological capital, further support this link. As a result, psychological capital seems to have a function that strengthens the effect of effective counselor characteristics on subjective well-being at work (work engagement) and professional quality of life. Although there is no research in the literature that deals with all the relevant variables together, the bases that constitute the starting point of the current research on this function of psychological capital are presented in detail under the title of mediation after explaining the other variables within the scope of the research.

Subjective Well-Being at Work (Work Engagement) and Professional Quality of Life

Subjective well-being, which represents the positive aspect of mental health (Doğan & Sapmaz, 2012; Vaillant, 2003) and is also called happiness (Diener, 2000), is most generally conceptualized as experiencing positive emotions more frequently than negative emotions in life and getting high satisfaction from life. In this respect, subjective well-being serves as an indicator of how individuals evaluate their lives (Diener, 2006) and reflects positive outcomes of their cognitive and emotional assessments related to their experiences (Diener & Ryan, 2009; Doğan & Sapmaz, 2012). Similarly, subjective well-being at work refers to the positive and negative emotions individuals experience in their work life and the satisfaction derived from their work (Bakker & Oerlemans, 2011). In this context, subjective well-being at work, which is also called work engagement (Eryılmaz & Doğan, 2012), involves a positive cognitive and emotional state characterized by dedication, vigor and absorption (Schaufeli et al., 2002). While dedication is characterized by employees' belief that there is meaning and purpose in their work and experiencing positive emotions such as enthusiasm and pride related to work, vigor involves employees' willingness and energy to put effort into work (Schaufeli et al., 2002). Finally, absorption is conceptualized as people's complete concentration on work and feeling happy while working (Bakker & Demerouti, 2008; Schaufeli et al., 2002).

Another concept that is as important as employees' subjective well-being at work (work engagement) is professional quality of life, which refers to the overall evaluation individuals make about their work (Van Laar et al., 2007). However, professional quality of life is defined by Stamm (2010) as the quality that people feel about their work, especially in terms of helpers, and is characterized by combination of compassion satisfaction, burnout and compassion fatigue. While compassion satisfaction can be defined as employees' perception that they can accomplish their work and the enjoyment they derive from it; from the perspective of helpers, it is seen that it covers all the positive feelings arising from being on the helping side (Stamm, 2010; Yeşil et al., 2010). Compassion fatigue can be explained as the cost of providing help and the empathy established during the process. It reflects the negative impact of the fatigue that occurs in the helper at the end of the process, which is based on empathy, aimed at understanding the traumatic life experiences of clients (Figley, 2002; Yeşil et al., 2010). Burnout, on the other hand, refers to negative evaluations in employees' beliefs about success and competence in their work, resulting from emotional exhaustion and displaying rigid, insensitive

attitudes towards the person they serve (Maslach & Goldberg, 1998; Maslach & Leiter, 2016). It is also possible to address the concepts of subjective well-being at work (work engagement) and professional quality of life in the context of counselors. Counselors play a significant role in effectively conducting the counseling process (Yalçın, 2006). One of the fundamental characteristics they must possess to ensure this effectiveness is their own psychological well-being (American Counseling Association [ACA], 2014; Hackney & Cormier, 2008). In this regard, experiencing more positive emotions and fewer negative ones in their professional lives not only enhances counselors' well-being but also contributes to more effective counseling outcomes. Supporting this, Emre's (2019) study found that low levels of workplace stress, burnout, and compassion fatigue, combined with high levels of job satisfaction, positively influence the well-being of psychological counselors and educators..

Effective Counselor Characteristics

The literature reveals a sustained interest, from past to present, in identifying the characteristics counselors must possess to be more effective and efficient in their roles (Ackerman & Hilsenroth, 2003; Eryılmaz & Bek, 2019; Jackson & Thompson, 1971; Wicas & Mahan, 1966; Wiggins & Weslander, 1979). These characteristics are mainly studied within the framework of psychological counseling skills and psychological counseling self-efficacy (Pamukçu & Demir, 2013; Taytaş & Tanhan, 2021; Uslu & Arı, 2005; Emül & Öz Soysal, 2021), but in recent years, there has been an increasing emphasis on the fact that an effective counselor has various personal characteristics as well as the theoretical equipment acquired through professional training (Korkut-Owen et al., 2018; Yalçın, 2006). For example Jennings and Skovholt (1999) state that counselors should be effective, warm and caring in the relational sense, have self-awareness in the emotional dimension, and be able to tolerate uncertainty and be open to learning in the cognitive dimension. Ackerman and Hilsenroth (2003) highlight the positive impacts of counselor characteristics such as honesty, reliability, experience, respect, self-confidence, warmth and openness on the therapeutic relationship. Halinski (2009) points to the importance of characteristics such as flexibility, empathy, warmth and acceptance, sincerity and high self-awareness in effective counselors. Also Sommers-Flanagan and Sommers-Flanagan (2015) emphasize the importance of high self-awareness, empathy, strong observational and evaluative skills and supervisory support.

Another widely framework regarding the characteristics of effective counselors was put proposed by Cormier and Cormier (1991). According to these explanations, the characteristics that effective counselors should possess are listed as intellectual competence, energetic, flexible, high self-awareness, goodwill and supportiveness (Cormier & Cormier, 1991). *Intellectual competence* refers to the fact that counselors are individuals who can apply their professional knowledge and skills effectively and are open to continuous self-improvement (Cormier & Cormier, 1991; Hackney & Cormier, 2008; İkiz & Totan, 2014). *Energy* refers to counselors' ability to remain cognitively, emotionally, physically and psychologically dynamic and to transfer this dynamism to the client (Cormier & Cormier, 1991; İkiz & Totan, 2014; Skovholt, 2012). *Flexibility* is the ability of counselors to determine appropriate theories and techniques by accurately analyzing the situation and needs of clients in the face of different clients and problems (Cormier & Cormier, 1991; İkiz & Totan, 2014; Thomas, 1999). *Support* can be explained as the ability of the counselor to ensure that the client takes responsibility and feels safe during the counseling process (Corey, 2008; Cormier & Cormier, 1991), while *goodwill* reflects the counselor's consideration of the client's interests and adherence to ethical principles (Cormier & Cormier, 1991; İkiz & Totan, 2014). Finally, the quality of *self-awareness* indicates that the counselor should know his/her own limitations and strengths (Cormier & Cormier, 1991; Hackney & Cormier, 2008; İkiz & Totan, 2014).

Psychological Capital as a Mediating Variable

Given the vital role counselors play in the provision of mental health services, it has become increasingly important to explore the factors that influence their positive experiences in the workplace. A review of the literature suggests that both effective counselor characteristics and psychological capital are significant predictors of counselors' subjective well-being at work (i.e., work engagement) and their professional quality of life (Ekşi et al., 2015; Javaheri, 2017; Kalay Usta & Deniz, 2019; Odacı et al., 2021; Özdamar & Özeke Kocabaş, 2023; Radeka & Hicks, 2018). In this context, the present study initially examines the relationships between effective counselor characteristics and the variables of subjective well-being at work and professional quality of life. Subsequently, it evaluates the role of psychological capital within these relationships based on existing research. Accordingly, this study discusses how effective counselor characteristics influence workplace experiences and explores the mediating role of psychological capital in this process.

First of all, effective counselor characteristics for counselors are considered key elements that have the potential to increase both subjective well-being at work (work engagement) and professional quality of life by increasing the effectiveness of the helping process. Research findings support this perspective by demonstrating the impact of these characteristics on the professional experiences of both practicing and prospective counselors (Özabacı et al., 2004; Yıldırım Kurtuluş & Yüksel Şahin, 2022). For example, the results of an action research involving interventions to meet the psychological needs of counselor candidates with choice theory-based practices showed a positive increase in the academic motivation and subjective well-being levels of the participants compared to before the intervention (Demir, 2021). The need for power, which stands out among these needs, is closely related to the characteristics of effective counselors as a feature that increases not only the competencies and success of psychological counselor candidates but also their subjective well-being (Demir, 2021). Because all components of effective counselor characteristics, especially intellectual competence, include the ability of counselor candidates to use their professional knowledge effectively, to develop themselves dynamically, and to plan the helping process effectively according to different problems and client needs (Cormier & Cormier, 1991). In this context, effective counselor characteristics may play a role in strengthening counselors' subjective well-being at work (work engagement) and compassion satisfaction, which is a positive component of professional quality of life, by enabling them to feel competent (Yayla & İkiz 2017). In another study in which the professional quality of life of psychotherapists was examined in a multidimensional way, empathy was found to be related to the dimensions of professional quality of life (Laverdière et al., 2019). These relationships are positive with the dimension of compassion satisfaction and negative with the dimension of burnout. However, although there was a statistical trend, it was found that compassion fatigue did not show a significant relationship with the empathy of the psychotherapists, and it was emphasized that this may be due to excessive identification with the client and intense countertransference in long-term therapies. Consequently, the study emphasized that the use of empathy without becoming overly immersed in the client's experiences—i.e., without crossing into a sympathetic response—may enhance professional quality of life (Laverdière et al., 2019).. As a matter of fact, empathy is one of the basic skills that contribute to the success of effective counselors (Yılmaz & Ergene, 2022), but it can also be considered as a critical component that poses a risk for compassion fatigue (Figley, 1995). In this context, it can be said that being supportive and self-awareness, which are among the effective counselor characteristics, contribute to the effective use of empathy. In other words, exhibiting a supportive attitude without taking responsibility for the client and not reflecting one's own attitudes to the client and the process with self-awareness can be considered as qualities that strengthen the counselor's ability to stay on the empathic plane and manage countertransference effectively. When these explanations and the results of Laverdière et al.'s (2019) study are considered together, it is thought that effective counselor characteristics have a role affecting professional quality of life. Supporting this view, a recent study investigating the mediating role of effective counselor characteristics in the relationship between supervision behaviors, professional pride, and compassion satisfaction found that these characteristics had a positive effect on both professional pride and compassion satisfaction, with supervision behaviors

playing a partial mediating role (Yıldırım Kurtuluş & Yüksel Şahin, 2023). In the light of these results in the literature, it is clear that it has become increasingly important to examine the factors that affect positive experiences in work life for mental health professionals who provide helping services and at the same time strengthen the characteristics of effective counselors. As a matter of fact, in line with this need, the concept of psychological capital, which stands out among positive organizational behaviors, has gained more and more importance in business life and has been the subject of research (Erkuş & Afacan Fındıklı, 2013; Wardani & Anwar, 2019; Yeni & Sezici, 2022). The concept of psychological capital has a role that is both influenced by the effective counselor characteristics (Yayla & İkiz, 2017) and protects and strengthens subjective well-being at work (work engagement) and professional quality of life (Alessandri et al., 2018; Çakmak ve Arabacı, 2017; Joo et al., 2016; Ocak ve Güler, 2017). Therefore, psychological capital provides a dynamic that increases the professional quality of life and well-being at work by helping to balance positive and negative work-related experiences, and in this respect, it is of great value to mental health professionals.

Psychological capital is an umbrella concept that emphasizes the unique and developable psychological structures of individuals (Luthans & Youssef, 2004). Therefore, it is important to understand the components of self-efficacy, hope, optimism and resilience that make up psychological capital in order to understand its impact on effective counselor characteristics and experiences in professional life. Self-efficacy, which constitutes the first component of psychological capital, reflects individuals' beliefs that they can exhibit the necessary behaviors to achieve the results they aim for and that they have the necessary personal abilities and resources (Bandura, 2010; Maddux & Kleiman, 2016). The second component, hope, refers to having the motivation to identify alternative ways to achieve a certain goal and to realize these ways (Luthans et al., 2015; Snyder et al., 1991). While optimism includes positive perception of the events encountered and positive expectations for the future (Luthans & Youssef, 2004), resilience is explained as the capacity to remain strong in the face of negative life events by drawing strength from internal and external resources (Özer & Deniz, 2014; Yates et al., 2003). All these components of psychological capital make it understandable how it is related to effective counselor characteristics and how it contributes to subjective well-being at work (work engagement) and professional quality of life. Effective counselors are individuals who engage in continuous self-development, have the intellectual and cognitive competence to carry out the counseling process efficiently, and have high self-awareness about these competencies (Hackney & Cormier, 2008). In addition, effective counselors carry a strong sense of hope and optimism about their clients' potential to achieve their goals and convey this positive outlook to their clients (Wampold, 2011). Effective counselors are able to maintain their energy in the face of the demanding nature of the profession (İkiz & Totan, 2014) and effectively manage the stress factors they may encounter due to the counseling process (Corey, 2008; Sommers-Flanagan & Sommers-Flanagan, 2015). From this point of view, it is clear that all these characteristics of effective counselors are actually the source of psychological capital consisting of self-efficacy, hope, optimism, and resilience components. Indeed, the literature emphasizes that counselors should have resilience (Skovholt, 2012), high self-efficacy belief (Pamukçu & Demir, 2013), hope and optimism (Wampold, 2011). In a study supporting the hypothesis that mental health professionals have high psychological well-being (Koller & Hicks, 2016), it was found that "environmental mastery" and "personal development and growth" are two main areas of strength. In this context, it is emphasized that the feeling of dominance in the workplace environment has a trust-building effect and is related to hope and optimism, which are identified as important elements in psychological capital (Koller & Hicks, 2016). As a result, psychological capital, with all its components, has a functionality that feeds on the characteristics of effective counselors and at the same time enhances the impact of these characteristics. When they come together, they strengthen the potential of individuals to create a higher quality work experience by supporting their well-being while increasing their success at work. This power is closely linked to the relationship between psychological capital and effective counselor characteristics as well as its relationship with subjective well-being at work (work engagement) and all elements of professional quality of life (compassion satisfaction, burnout, and compassion fatigue).

Psychological capital and its components are crucial factors in enhancing employees' subjective well-being at work (work engagement). Bakker and Demerouti (2007) emphasize that in addition to work-related resources (such as autonomy, social support), personal resources such as hope, optimism, self-efficacy and resilience, i.e. psychological capital, are effective in the formation of work engagement. This is supported by the research findings that reveal the positive relationship between psychological capital and subjective well-being at work (work engagement) in the literature (Joo et al., 2016; Karatepe & Karadas, 2015; Simons & Buitendach, 2013). For instance, in a study conducted by Siu (2013) with healthcare professionals, psychological capital was found to significantly enhance both subjective well-being at work and the ability to maintain work-life balance. The study emphasized that components of psychological capital—such as self-efficacy, optimism, hope, and resilience—play a vital role in shaping employees' positive perceptions of their work lives. In a similar study examining the role of psychological capital and coping styles in the psychological well-being levels of school counselors, it was found that self-efficacy, optimism and hope components of psychological capital are important predictors of psychological well-being (Odacı et al., 2021). The results of the study by Bolelli (2020), in which the effect of psychological capital on subjective well-being was examined, show that all components of psychological capital positively explain subjective well-being and hope has the highest effect. This situation not only reflects on the well-being of mental health workers but also creates positive results for clients. Indeed, Koller and Hicks (2016) point out that mental health workers generally have high psychological well-being and provide a positive environment for their clients as well as their own psychological well-being through their psychological capital, especially optimism and hope components.

Psychological capital is closely related to subjective well-being at work (work engagement) as well as employees' professional quality of life (Bıyık & Aydoğan, 2017; Wardani & Anwar, 2019). In its broadest sense, professional quality of life reflects the balance between negative experiences—such as workplace difficulties, pressures, and challenges—and positive experiences, including job satisfaction, success, and personal development (Stamm, 2010; Yeşil et al., 2010). Burnout and compassion fatigue, which are among the negative dimensions of professional quality of life, may occur as a result of the inadequacy of people's environmental and personal resources to meet the demands of work and to cope with the stress brought by work (Freudenberger, 1974; Ocak & Güler, 2017; Yeşil et al., 2010). Compassion satisfaction, which constitutes the positive dimension of professional quality of life, reflects the pleasure felt from the job (Stamm, 2010). In line with all these literature emphases, it is thought that psychological capital, which consists of self-efficacy belief, hope, optimism and resilience components and reflects the developable psychological strengths of individuals, may have a preventive effect on burnout and compassion fatigue and strengthen compassion satisfaction. Empirical findings support this view, indicating that psychological capital is negatively associated with burnout (Ocak & Güler, 2017; Tösten et al., 2017) and compassion fatigue (Bao & Taliaferro, 2015), and positively associated with compassion satisfaction (Çakmak & Arabacı, 2017; Erkuş & Fındıklı, 2013) and job satisfaction (Akçay, 2011; Oğuzhan et al., 2017).

In conclusion, considering the positive effects of both effective counselor characteristics and psychological capital on subjective well-being at work (work engagement) and professional quality of life, psychological capital has the potential to strengthen these effects for counselors. In fact, studies emphasizing the importance of effective counselor characteristics suggest that when counselors possess traits that contribute to their professional effectiveness, they are more likely to experience positive outcomes such as increased professional commitment, compassion satisfaction, and professional pride (Özdamar & Özeke Kocabaş, 2023; Yıldırım Kurtuluş & Yüksel Şahin, 2022). Similarly, in the literature, it is emphasized that counselors need to have characteristics such as self-efficacy, hope, optimism and resilience, in short, a strong psychological capital, in order to be more effective in work life (Pamukçu ve Demir, 2013; Skovholt, 2012; Wampold, 2011). Ultimately, psychological capital does not reflect a fixed structure, but represents a higher structure that goes beyond resources such as knowledge, skills and experience exemplified as human capital with its changeable and improvable structure (Luthans & Youssef, 2004; Luthans et al., 2004). Therefore, it is expected that counselors with effective counselor

characteristics will have more positive experiences in their professional lives and have strong psychological capital, and this is thought to have positive effects on business life. Indeed, in a study conducted by Javaheri (2017), it was found that counseling students with high levels of psychological capital had better mental health and lower levels of academic and clinical stress. For counselors, psychological capital and characteristics that strengthen positive experiences at work not only provide a protective effect against professional difficulties, but also play a significant role in the quality of the service they provide and the satisfaction of their clients (Aniyatussaidah & Herdi, 2023; Mamacı, 2021; Odacı et al., 2021). In a study conducted by Mamacı (2021), it was found that counselors used deep role-playing strategies more than other helping professions and consciously changed their real emotions in order to display appropriate emotions to their environment, and this situation was seen to create satisfaction by the service recipients. In the same study, it was emphasized that examining the concepts of psychological capital and well-being in professional groups working in the field of mental health could make significant contributions to strategies to increase efficiency in these services. In addition, another striking finding of the study is that counselors have significantly higher psychological capital than psychiatrists and psychologists (Mamacı, 2021). In this context, it is important to determine the factors that explain both psychological capital and subjective well-being at work (work engagement) and professional quality of life of counselors.

In summary, when all the emphases in the literature are evaluated as a whole;

- The growing importance of studies on positive experiences at work
- Subjective well-being at work (work engagement) and professional quality of life have a deeper meaning for mental health workers due to the challenges inherent in the profession,
- For counselors, one of the elements that explain these experiences is that effective counselor characteristics come first,
- Psychological capital as a developable personal resource is both related to effective counselor characteristics and has a function that increases positive experiences such as work engagement and professional quality of life, yet there is no study that addresses the relevant variables as a whole,

were the starting point of this study. Based on this point, the relationship between effective counselor characteristics and subjective well-being at work (work engagement) and professional quality of life was examined in the research and it was aimed to determine the mediating role of psychological capital in this relationship. The hypotheses determined for this purpose are presented below.

Hypotheses of the Study

1. The mediating role of psychological capital in the relationship between effective counselor characteristics and their subjective well-being at work (work engagement) is significant.
2. The mediating role of psychological capital in the relationship between effective counselor characteristics and the components of professional quality of life (compassion satisfaction, compassion fatigue and burnout) is significant.

Method

Research Design

This study was designed to test a model aimed at determining the effect of effective counselor characteristics on counselors' subjective well-being at work (work engagement) and professional quality of life, as well as the mediating role of psychological capital in this relationship. The study is based on the relational survey model, which can be described as a research model that seeks to identify whether two or more variables change in parallel with each other, and to measure the degree of this change, if any (Karasar, 2016). In this research, effective counselor characteristics are considered as the predictor variable, while subjective well-being at work (work engagement) and professional quality of life are treated as the predicted variables. Psychological capital is examined as a mediating variable.

Research Group

In this study, counselors who are in active working life among the professionals serving in the field of mental health in Türkiye constitute the research group. Criterion sampling method was used to determine the research group. Criterion sampling requires the research group to meet some predetermined criteria (Baltacı, 2018). The criteria set for this study were that participants must have graduated from an undergraduate program in Guidance and Psychological Counseling or Psychological Services in Education, and be employed in either the public or private sector during the data collection period. Although 460 mental health professionals were reached during the data collection process, the data of 127 participants who did not meet the research criteria of being graduates of the Guidance and Psychological Counseling or Psychological Services in Education undergraduate program and being actively employed were not included in the study. As a result, the research group of the study consists of 333 psychological counselors. Information regarding the participants is presented in Table 1.

Table 1. Participants' demographic information

Variables	<i>f</i>	%
Gender		
Female	218	65.5
Male	115	34.5
Age		
20-25	57	17.1
26-30	107	32.1
31-35	72	21.6
36+	97	29.1
Education status		
Bachelor's degree	229	68.8
Postgraduate	104	31.2
Experience		
0-5 years	136	40.8
6-10 years	90	27.0
11-20 years	68	20.4
21 years+	39	11.7

Data Collection Tools

Effective Counselor Characteristics Assessment Scale (ECCAS): The scale developed by İkiz and Totan (2014) measures the characteristics that should be present in effective counselors. It consists of 26 items (sample item; I have information about psychological counseling skills) and 6 sub-dimensions: intellectual competence, energy, flexibility, support, self-awareness, and goodwill. The scale is scored using a five-point Likert scale (1 = It does not qualify me at all, 5 = It qualifies me completely). There are no reverse-scored items in the scale. A high score on the scale indicates a high perception of being an effective counselor. As a result of the second level confirmatory factor analysis (CFA) conducted to examine the six-factor theoretical model for the sub-dimensions of the scale, the measurement model was confirmed. The internal consistency of the scale was reported as ".90" and the test-retest reliability coefficient as ".74" (İkiz & Totan, 2014). The alpha reliability coefficient calculated in our current study is .92.

Psychological Capital Scale (PCS): The scale was developed by Luthans et al. (2007) to measure "psychological capital" and the adaptation studies for the Turkish version were conducted by Akçay (2011). The 24-item scale (sample item; I am currently trying to achieve my work goals energetically) has 4 sub-dimensions: hope, optimism, self-efficacy and resilience. The Likert-type scale is scored on a five-point scale (1= Does not describe me at all, 5= Describes me very well). Items 13, 20 and 23 are reverse scored. A high score on the scale indicates that individuals have high levels of psychological

capital. According to the results of the factor analysis conducted to measure construct validity, it was stated that the scale preserved its 4-factor structure. Cronbach's alpha coefficient for the whole scale was reported as .97 (Akçay, 2011). The alpha reliability coefficient calculated in our current study is .90.

Professional Quality of Life Scale (PQLS): The Professional Quality of Life Scale, developed by Stamm (2005) to measure the professional quality of life of employees, was adapted into Turkish by Yeşil et al. (2010). It consists of 30 items (sample item; I feel stronger after helping others) and is divided into 3 sub-dimensions as "compassion satisfaction", "burnout" and "compassion fatigue". The Likert-type scale is scored on a six-point scale (0=Never, 5=Very often). Items 1, 4, 15, 17 and 29 are reverse scored. A total score cannot be obtained from the scale; however, high scores obtained from the compassion satisfaction subscale indicate that employees are highly satisfied with their work. A high score on the burnout subscale indicates a high level of burnout, while a high score on the compassion fatigue subscale indicates that employees experience a high degree of compassion fatigue. The external validity of the scale was deemed sufficient as a result of the correlation values ($r = .39$ $r = .40$, $p < .01$) between the Brief Symptom Inventory (Şahin & Durak, 1994) and the Burnout Inventory (Ergin, 1992) used within the scope of criterion-related validity. While Cronbach's alpha values were reported as .84 for the whole scale, they were .81, .83 and .62 for compassion satisfaction, compassion fatigue and burnout, respectively (Yeşil et al., 2010). The Cronbach's alpha reliability coefficients calculated in our study were .79 for the overall scale, .87 for compassion satisfaction, .87 for compassion fatigue and .68 for burnout. If this value is above .70, the scale can be said to be reliable; however, if the number of questions in the subscales is limited, .60 can also be accepted as the reliability limit (Sipahi et al., 2010). Based on this, it is concluded that the overall scale and its sub-dimensions have reliable values.

Utrecht Work Engagement Scale (UWES): The scale designed to measure subjective well-being at work (work engagement) was developed by Schaufeli et al. (2002). Turkish adaptation of the scale was conducted by Eryılmaz and Doğan (2012). The scale consists of 17 items (sample item; I am willing and enthusiastic about my job) and 3 sub-dimensions: vigor, dedication and absorption on work. It is a Likert-type scale scored on a five-point scale (1=Not at all favorable, 5=Fully favorable). A high score on the scale indicates that the person has a high level of work engagement. The construct validity of the scale was examined through confirmatory factor analysis and it was seen that the 3-factor structure was confirmed. Within the scope of reliability examinations, the test-retest reliability coefficient of the scale was calculated as .85 and the alpha internal consistency value of the scale was calculated as .94 (Eryılmaz & Doğan, 2012). The alpha reliability coefficient calculated in our current study is .95.

Data Collection

The data collection tools used in this study were determined based on the research objectives. After obtaining permission for use from the original authors, the necessary legal approvals to conduct the research were secured during the 2018-2019 academic year from the Eskişehir Provincial Directorate of National Education and the Eskişehir Osmangazi University Social and Human Sciences Research and Publication Ethics Board. The data collection tools, including the Participant Consent Form, were transferred to an online platform (Google Forms). The form was then distributed to participants via WhatsApp and Facebook groups that included psychological counselors. The participants were also reached by phone and e-mail in order to send the form.. As a result, research data were collected online from volunteer participants.

Data Analysis

In the data analysis phase, firstly, skewness and kurtosis values were examined to understand whether the variables were normally distributed or not, and the normal distribution range of the variables was examined between -1.96 and +1.96 (Kerr et al., 2002). The obtained skewness and kurtosis coefficients were found to be normally distributed for all variables (-.22, -.26 for counselor characteristics, .08, .04 for psychological capital, -.68, .66 for compassion satisfaction, .40, -.42 for compassion fatigue, -.30, -.29 for burnout, and -.78, 1.29 for work engagement). Then, in order to

evaluate the multivariate normal distribution of the variables for regression analysis and the linearity of the relationship between them, P-P plots and scatter diagrams were examined based on standardized residuals and predicted values. In the P-P plot of standardized residuals, it was observed that the residuals formed a diagonal line from the bottom left corner to the top right corner, which was interpreted as the normality assumption being met, similar to a histogram. Likewise, in the scatter diagram created for standardized residuals and standardized predicted values, it was seen that the values were distributed around a 45 degree axis, indicating a linear relationship. In addition, Variance Inflation Factor (VIF) and Condition Index (CI) values were examined to determine whether there were multiple correlation and multicollinearity problems and it was found that the highest VIF value was 1.812 (<10), the highest tolerance value was .552 (>0.2) and the highest conditional index value was $CI=26.44$ (<30). These results indicate that the data do not have multicollinearity problem (Akbulut, 2010; Hair et al., 2010; Özdamar, 2004). Finally, the Durbin Watson coefficient was calculated to determine whether there is an autocorrelation problem among all variables and it was found to be in the expected range (1.5-2.5 range) (Kalaycı, 2010) with values between 1.78 and 2.10.

In the research, mediation analyses were analyzed using the "PROCESS Macro regression-based bootstrapping" method developed by Hayes (2018). Bootstrapping method can be explained as a resampling method based on accepting the research sample as the universe and creating subsamples from the data according to this accepted universe (Preacher & Hayes, 2008). In the research, the models were realized by performing 10,000 bootstraps and bootstrapping coefficient and confidence intervals for the models were created accordingly.

Results

In this study, it was aimed to determine the mediating role of psychological capital in the relationship between effective counselor characteristics, subjective well-being at work levels and professional quality of life of counselors. Firstly, correlations between variables were analyzed and the results are presented in Table 2.

Table 2. Pearson Correlation Analysis Coefficients of Variables

Variables	1	2	3	4	5	6
1. Subjective well-being at work (SWW)	-					
2. ^{PQ} Compassion satisfaction (^{PQOL} - CS)	.74**	-				
3. ^{PQ} Compassion fatigue (^{PQOL} - CF)	-.25**	-.23**	-			
4. ^{PQ} Burnout (^{PQOL} - B)	-.51**	-.54**	.71**	-		
5. Effective counselor characteristics (ECC)	.61**	.56**	-.23**	-.40**	-	
6. Psychological capital (PsyCap)	.66**	.60**	-.37**	-.56**	.67**	-
Mean	65.90	41.29	17.89	25.63	106.62	93.52
Std. Deviation	11.74	6.03	9.42	6.80	11.71	11.70

* $p < .05$; ** $p < .01$; ^{PQ} Professional quality of life sub-dimension

As seen in the correlation findings, all variables in the study were found to have statistically significant relationships with SWW and all of the sub-dimensions of professional quality of life. According to the correlation values obtained and the direction of the values, SWW is positively correlated with ^{PQOL}- CS ($r = .74, p < .01$), ECC ($r = .61, p < .01$) and PsyCap ($r = .66, p < .01$). It was found that SWW was negatively correlated with ^{PQOL}- CF ($r = -.25, p < .01$) and ^{PQOL}- B ($r = -.51, p < .01$). When the values in terms of professional quality of life sub-dimensions and other variables were analyzed, it was found that there was a positive relationship between ^{PQOL}- CS and ECC ($r = .56, p < .01$) and PsyCap ($r = .60, p < .01$), while these relationships were negative for ^{PQOL}- CF ($r = -.23, p < .01$) and ^{PQOL}- B ($r = -.54, p < .01$). Another sub-dimension of professional quality of life, ^{PQOL}- CF, was found to be negatively correlated with ECC ($r = -.23, p < .01$) and PsyCap ($r = -.37, p < .01$) and positively correlated with ^{PQOL}- B ($r = .71, p < .01$). While there was a negative relationship between ^{PQOL}- B and ECC ($r = -.40, p < .01$) and

PsyCap ($r = -.56, p < .01$), there was a positive relationship between ECC and PsyCap ($r = .67, p < .01$). From this point of view, it can be said individuals who have high scores on ECC tend to have higher scores on their PsyCap, SWW (work engagement), and PQOL- CS, while they tend to have lower scores in PQOL- B and PQOL- CF. Strong PsyCap of counselors supports them to experience SWW (work engagement) and PQOL- CS in work life, while it is seen to have a preventive quality in terms of experiencing PQOL- B and PQOL- CF.

In the study, the findings related to the mediation models established to examine the mediation effect of PsyCap on the relationship between ECC and counselors' SWW (work engagement) and professional quality of life were examined under two headings.

Findings on the Mediating Role of Psychological Capital in the Relationship between Effective Counselor Characteristics and Subjective Well-Being at Work

The model established to examine the mediating effect of PsyCap between ECC and SWW was examined by bootstrap analysis method and the findings are presented in Figure 1.

As seen in Figure 1, ECC are a significant predictor of PsyCap ($a = .67, p < .001$) and PsyCap is a significant predictor of SWW (work engagement) ($b = .46, p < .001$). While ECC have a total effect of .61 on SWW (work engagement), this effect decreases to .31 when the mediator variable PsyCap is included in the model. The obtained values show that PsyCap has a partial mediation effect.

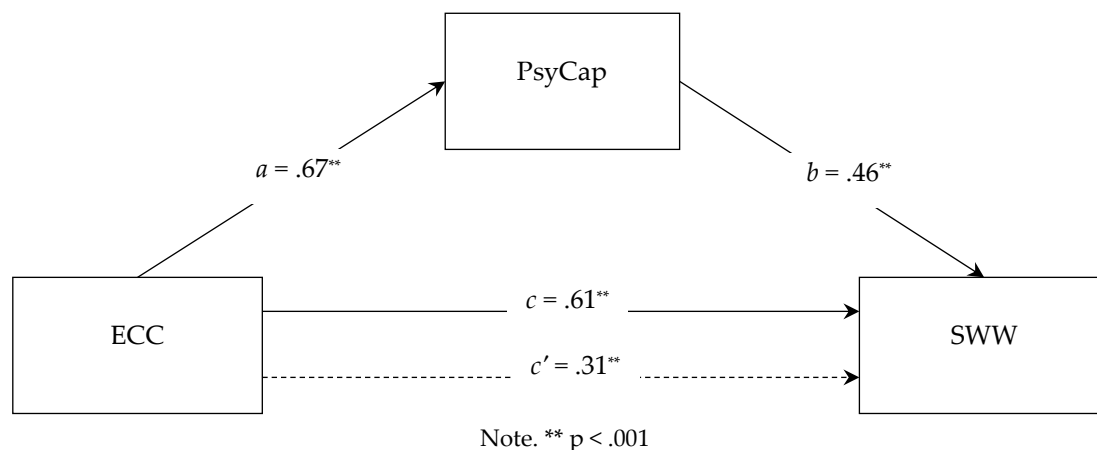


Figure 1. Mediation of Psychological Capital between ECC and SWW (Work Engagement)

Bootstrapping coefficient and 95% confidence intervals (CIs) for the significance of the effects for the model in Figure 1 are shown in Table 3.

Table 3. Mediation of PsyCap between ECC and SWW (Work Engagement): Bootstrapping Findings

Indirect impact	Bootstrap Coefficient	SH	%95 CIs		R ²	F(3, 33)
			Lower Limit	Upper Limit		
ECC → PsyCap → SWW	.30	.04	.23	.39	.49	155.97
Direct impacts	Coefficient	SH	t value			
ECC → PsyCap	.67	.04	16.39**			
ECC → SWW	.31	.05	5.77**			
PsyCap → SWW	.46	.06	6.64**			

Note. ** $p < .001$

When Table 3 is examined, it is seen that the model established for SWW (work engagement) is significant [$F(3, 33) = 155.97, p < .001$] and PsyCap has a significant indirect effect between ECC and SWW (work engagement) (bootstrap coefficient = .30, 95% CI = .23, .39).

Effective Counselor Characteristics and Professional Quality of Life: Findings on the Mediating Role of Psychological Capital in the Relationship between Compassion Satisfaction, Compassion Fatigue and Burnout

The mediating effect of PsyCap on the relationship between ECC and professional quality of life was examined by establishing three different models in line with the sub-dimensions of professional quality of life ($^{PQOL-}$ CS, $^{PQOL-}$ CF, $^{PQOL-}$ B).

Findings Regarding Compassion Satisfaction

The model established to determine the mediating effect of PsyCap on the relationship between ECC and $^{PQOL-}$ CS was examined by bootstrap analysis method and the findings are presented in Figure 2.

As seen in Figure 2, ECC are a direct positive predictor of PsyCap ($a = .67, p < .001$) and PsyCap is a direct positive predictor of $^{PQOL-}$ CS ($b = .21, p < .001$). While ECC had a total effect of .29 on $^{PQOL-}$ CS, this effect decreased to .15 when PsyCap was included in the model and this value was significant. The obtained values show that PsyCap has a partial mediation effect.

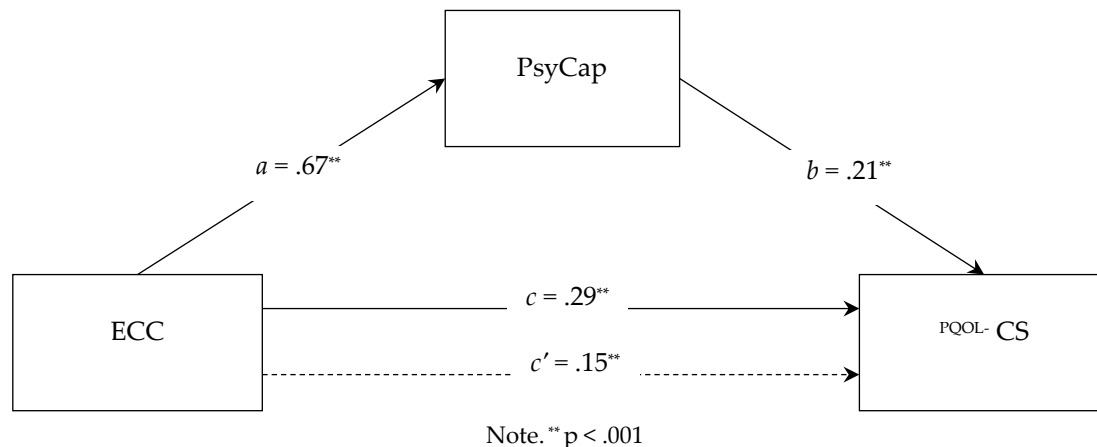


Figure 2. Mediation of *PsyCap* Between ECC and $^{PQOL-}$ CS

Bootstrapping coefficient and 95% confidence intervals (CIs) calculated for the significance of the effects for the model analyzed in Figure 2 are presented below (Table 4).

Table 4. Bootstrapping Results on the Mediation of PsyCap between ECC and $^{PQOL-}$ CS

Indirect impact	Bootstrap Coefficient	SH	%95 CIs		R^2	$F(3, 33)$
			Lower Limit	Upper Limit		
ECC $\rightarrow$ PsyCap $\rightarrow$ $^{PQOL-}$ CS	.14	.02	.10	.18	.40	111.55
Direct impacts		Coefficient	SH	t value		
ECC $\rightarrow$ PsyCap		.67	.04	16.39**		
ECC $\rightarrow$ $^{PQOL-}$ CS		.15	.03	5.18**		
PsyCap $\rightarrow$ $^{PQOL-}$ CS		.21	.03	6.94**		

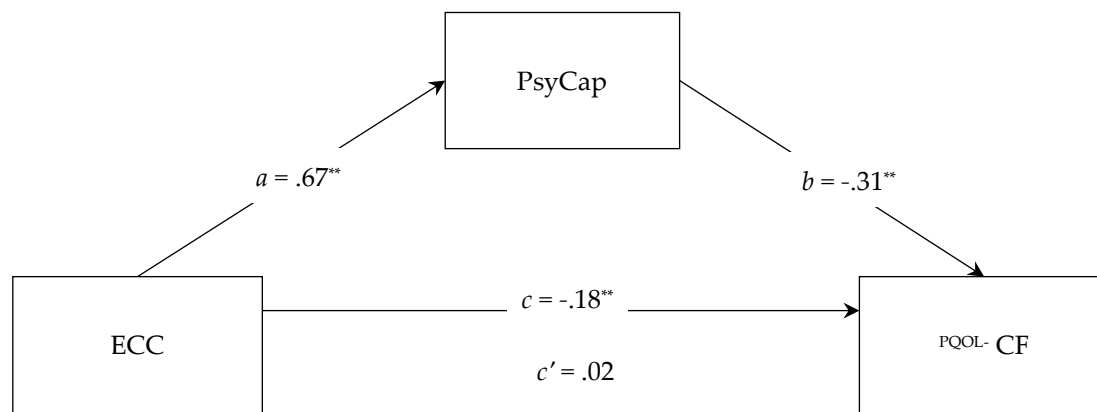
Note. ** $p < .001$

When Table 4 is examined, it is seen that the model established for ^{PQOL}-CS is significant [$F(3, 33) = 111.55, p < .001$] and PsyCap has a significant indirect effect between ECC and ^{PQOL}-CS (bootstrap coefficient = .14, 95% CI = .10, .18).

Findings Regarding Compassion Fatigue

The model established to determine the mediating effect of PsyCap on the relationship between ECC of counselors and ^{PQOL}-CF was examined by bootstrap analysis method and the findings are presented in Figure 3.

As seen in Figure 3, ECC are a direct positive predictor of PsyCap ($a = .67, p < .001$), whereas PsyCap is a direct negative predictor of ^{PQOL}-CF ($b = -.31, p < .001$). Here, while ECC had a total effect of -.18 on ^{PQOL}-CF, this effect was .02 and not significant with the inclusion of the PsyCap mediator variable in the model. The obtained values show that PsyCap has a full mediation effect.



Note. ** $p < .001$

Figure 3. Mediation of *PsyCap* between ECC and ^{PQOL}-CF

Bootstrapping coefficient and 95% confidence intervals (CIs) calculated for the significance of the effects for the model analyzed in Figure 3 are presented below (Table 5).

Table 5. The Mediation of *PsyCap* between ECC and ^{PQOL}-CF: Bootstrapping Findings

Indirect impact	Bootstrap Coefficient	SH	%95 CIs		R ²	F(3, 33)
			Lower Limit	Upper Limit		
ECC → PsyCap → ^{PQOL} -CF	-.21	.05	-.31	-.11	.13	25.51
Direct impacts	Coefficient	SH	t value			
ECC → PsyCap	.67	.04	16.39**			
ECC → ^{PQOL} -CF	.02	.06	0.39			
PsyCap → ^{PQOL} -CF	-.31	.06	-.093**			

Note. ** $p < .001$

When Table 5 is examined, it is seen that the model established for ^{PQOL}-CF is significant [$F(3, 33) = 25.51, p < .001$] and PsyCap has a significant indirect effect between ECC and ^{PQOL}-CF (bootstrap coefficient = -.21, 95% CI = -.31, -.11).

Findings Regarding Burnout

The model established to determine the mediating role of PsyCap in the relationship between ECC and ^{PQOL-} B was examined by bootstrap analysis method and the findings are presented in Figure 4.

When Figure 4 is examined, it is seen that ECC of counselors directly predict PsyCap positively ($a = .67, p < .001$), while PsyCap level predicts ^{PQOL-} B negatively. ($b = -.30, p < .001$). While counselor characteristics had a total effect of $-.23$ on ^{PQOL-} B, this effect was $-.03$ and not significant with the inclusion of the PsyCap mediator variable in the model. From this point of view, it was found that PsyCap showed full mediation effect in the established model.

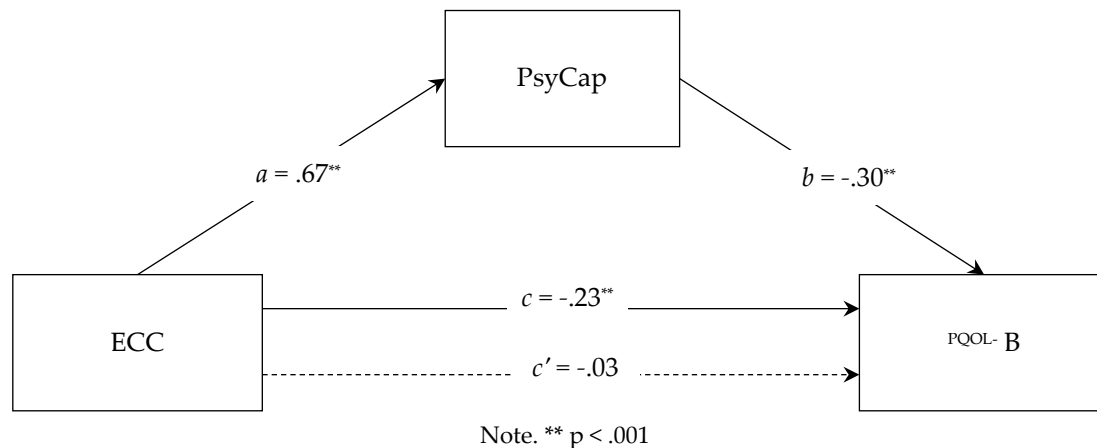


Figure 4. Mediation of PsyCap between ECC and ^{PQOL-} B

Bootstrapping coefficient and 95% confidence intervals (CIs) calculated for the significance of the effects related to the model analyzed in Figure 4 are presented in Table 6.

Table 6. Mediation of PsyCap between ECC and ^{PQOL-} B: Bootstrapping Findings

Indirect impact	Bootstrap Coefficient	SH	%95 CIs		R ²	F(3, 33)
			Lower Limit	Upper Limit		
ECC → PsyCap → ^{PQOL-} B	-.20	.03	-.26	-.15	.31	74.33
Direct impacts	Coefficient	SH	t value			
ECC → PsyCap	.67	.04	16.39**			
ECC → ^{PQOL-} B	-.03	.04	-0.83			
PsyCap → ^{PQOL-} B	-.30	.04	3.68**			

Note. ** $p < .001$

When Table 6 is examined, it is seen that the model established for ^{PQOL-} B, one of the sub-dimensions of professional quality of life, is significant [$F(3, 33) = 74.33, p < .001$] and PsyCap has a significant indirect effect between ECC and ^{PQOL-} B (bootstrap coefficient = $-.20$, 95% CI = $-.26, -.15$).

Discussion

The relationship between effective counselor characteristics and subjective well-being at work (work engagement), as well as professional quality of life (compassion satisfaction, compassion fatigue, burnout), and the mediating role of psychological capital in these relationships were discussed under two main headings, based on the literature. First, the mediating role of psychological capital in the relationship between effective counselor characteristics and subjective well-being at work (work engagement) was evaluated. Second, the mediating role of psychological capital in the relationship between effective counselor characteristics and professional quality of life was discussed.

Discussion on the Mediating Role of Psychological Capital in the Relationship between Effective Counselor Characteristics and Subjective Well-Being at Work (Work Engagement)

The first direct effect that can be addressed in the research regarding the mediating role of psychological capital in the relationship between effective counselor characteristics and subjective well-being at work (work engagement) is the effect of effective counselor characteristics on psychological capital. According to the research results, it was found that effective counselor characteristics positively predicted psychological capital. In this context, it is expected that the professional investments that counselors make in themselves will also strengthen their psychological capital. As a matter of fact, it is very important for an effective counselor to be intellectually competent, supportive, well-intentioned, energetic, flexible and self-aware (İkiz & Totan, 2014) as well as being psychologically healthy (Hackney & Cormier, 2008). In this context, studies emphasizing the importance of counselors' high levels of self-efficacy beliefs (Pamukçu & Demir, 2013), hope and optimism (Wampold, 2011), and resilience (Skovholt, 2012) highlight the necessity for counselors to possess a strong psychological capital. Because effective counselors, in addition to having the necessary equipment to strengthen the psychological capital of their clients, are also important models for their clients with their own feelings, thoughts and behaviors (Egan, 2011). Therefore, it is of great importance for an effective counselor to strengthen their own psychological capital by applying their professional knowledge to their own life first.

Another noteworthy point in the relationship between effective counselor characteristics and psychological capital is that counselors grow alongsidewith their clients during the counseling process. Carkhuff's (2014) definition of the art of helping as "the success of the helper to grow with the client" also supports this. Counselors who directly witness the growth and development in their clients at the end of an effective counseling process can reach a stronger psychological structure through this experience. For example, Silveira and Boyer (2015) reported that counselors experienced positive developments in their own well-being (e.g., self-efficacy, resilience, optimism, and hope) in the face of their clients' development during the counseling process. In this context, it is possible to say that counselors who support their clients in strengthening their psychological capital also invest in their own psychological capital. However, no research has been found in the relevant literature in which effective counselor characteristics and psychological capital are directly examined together. On the other hand, the literature includes numerous studies focusing on the sub-dimensions of psychological capital such as "hope", "optimism", "self-efficacy" and "resilience". One of these studies was conducted by Çapri and Demiröz (2016) and it was found that effective counselor characteristics played a full mediating role between emotional intelligence and counseling self-efficacy beliefs. Similarly, in the study conducted by Yayla and İkiz (2017), a positive relationship between effective counselor characteristics and counseling self-efficacy was reported. In another study, it was found that effective counselor characteristics were positively associated with cognitive flexibility and significantly predicted cognitive flexibility (Buyruk-Genç & Yüksel-Şahin, 2020).

Another direct effect that can be addressed according to the model is the effect of effective counselor characteristics on subjective well-being at work (work engagement). Counselors with effective counselor characteristics tend to make positive cognitive evaluations about their work life, leading to increased work engagement and more positive emotional experiences. Although there is no study in the literature that directly reveals the relationship between effective counselor characteristics and work engagement, the existing emphases indicate that the relationship between the two concepts is in the expected direction. For example, employees with high work engagement are considered to be effective, productive, energetic, and highly motivated people in work life (Gülbahar, 2017; Shimazu & Schaufeli, 2008). On the other hand, being an effective counselor requires continuous efforts for both professional and personal development and having the necessary energy and motivation to sustain this effort. Therefore, the physical, emotional, and cognitive efforts made by counselors (İkiz & Totan, 2014) and the fact that professionals find their work inspiring and meaningful as a result of the help service

provided to individuals as an effective counselor (McLeod, 2009), play a crucial role in their experience of work engagement. In fact, work engagement refers to an energetic state that requires individuals to give themselves physically, emotionally and cognitively to their work (Kahn, 1990), that is related to people's willingness to spend effort on work, to concentrate on work, to find meaning in work (Schaufeli et al., 2002), and that employees believe that they are effective in their work (Olivier & Rothmann, 2007).

Another direct effect that can be examined within the scope of the research is the effect of psychological capital on subjective well-being at work (work engagement). The results of the study show that counselors' investment in their psychological capital has a positive effect on their level of subjective well-being at work (work engagement). The literature emphasizes how work engagement is formed, highlighting work-related factors such as autonomy and social support, as well as personal resources like self-efficacy and resilience (Bakker and Demerouti, 2007). It also underscores the importance of employees' psychological structures (psychological capital), which include power resources like self-efficacy, hope, optimism, and resilience.. Employees with high psychological capital are those who possess positive expectations about work (optimism), believe in their ability to succeed in their professional lives (self-efficacy and hope), and demonstrate greater resilience when dealing with challenging situations (Luthans et al., 2007). Employees with high work engagement are individuals who concentrate fully on their work by spending energy and effort to achieve success, find meaning in their work, and have positive feelings about their work (Bakker & Demerouti, 2008; Schaufeli et al., 2002). Therefore, it is thought that employees' positive feelings and expectations about their jobs, having the necessary hope and self-efficacy beliefs to succeed in the job and being able to put forth sufficient effort, and remaining resilient in the face of challenging situations encountered in business life, in short, having a strong psychological capital, will support work engagement. As a matter of fact, various studies conducted on different professional groups provide findings that support the relationship between psychological capital and work engagement (Alessandri et al., 2018; Joo et al., 2016; Karatepe & Karadas, 2015; Simons & Buitendach, 2013).

In the hypothetical model established in the study, in addition to direct effects, the mediation effect was also found to be significant. Psychological capital plays a partial mediating role in the effect of effective counselor characteristics on subjective well-being at work (work engagement). In other words, the effect of effective counseling characteristics of counselors on their subjective well-being at work (work engagement) increases through psychological capital. These results once again highlight the importance of employees' personal and work-related resources in the development of work engagement. Indeed, effective counselors have various characteristics in relational, cognitive, emotional and psychological areas (Hackney & Cormier, 2008; İkiz & Totan, 2014; Jennings & Skovholt, 1999; Wampold, 2011) and these characteristics actually play a supportive role for the development of counselors' work engagement. These characteristics can also be considered as competencies that serve as resources for their psychological capital. The National Occupational Standard for Psychological Counselors, prepared by the Vocational Qualifications Authority of Türkiye (VQA, 2017), highlights that counselors should not only have the professional skills and technical knowledge necessary to improve themselves and the counseling process but also possess traits such as awareness of their physical and mental health, competence, and flexibility. These traits align with the components of psychological capital. Possessing characteristics that enable counselors to develop professionally and remain effective enhances both their mental health and work life (Kalay Usta & Deniz, 2019; Yıldırım Kurtuluş & Yüksel Şahin, 2022; Yıldırım Kurtuluş & Yüksel Şahin, 2023) while also strengthening their psychological capital and its components (Hou, 2015; Yayla & İkiz, 2017). This situation can be considered as a positive cycle because psychological capital allows counselors to support their mental health and protect themselves from work-related stress (Javaheri, 2017). When these emphases in the literature are considered as a whole, it can be said that it is an expected outcome for psychological capital to serve as a bridge between counselors possessing features that will make them more effective in their

work lives and their ability to experience work engagement. As a result, it is very important for counselors to have strong psychological capital as well as having effective counselor characteristics in order to experience subjective well-being at work (work engagement).

Effective Counselor Characteristics and Professional Quality of Life: Discussion on the Mediating Role of Psychological Capital in the Relationship between Compassion Satisfaction, Compassion Fatigue and Burnout

The first direct effect that can be examined regarding the mediating role of psychological capital in the relationship between effective counselor characteristics and the dimensions of professional quality of life, compassion satisfaction, compassion fatigue and burnout, is the effect of effective counselor characteristics on psychological capital. As discussed in the previous section, psychological counselors who possess the knowledge and skills necessary to enhance their clients' psychological capital also serve as effective models throughout the counseling process (Egan, 2011). In doing so, they not only contribute to the effectiveness of the helping process but also experience growth alongside their clients. These contributions emphasize how the characteristics of an effective counselor strengthen the psychological structures and psychological capital of the counselors themselves (Hernández et al., 2007).

Another direct effect that can be examined regarding the models established within the scope of the research is the effect of effective counselor characteristics on professional quality of life. Accordingly, effective counselor characteristics positively predicted compassion satisfaction and negatively predicted compassion fatigue and burnout, which are sub-dimensions of professional quality of life. More clearly, having effective counselor characteristics can not only be supportive for counselors to experience compassion satisfaction in their professional lives, but also prevent them from experiencing negative emotions and situations such as compassion fatigue and burnout. Although there is no research in the literature directly addressing the relationship between effective counselor characteristics and professional quality of life, it is seen that there are studies that indirectly support the results obtained in this study. For example, in a study conducted by Ekşi et al. (2015), it was determined that there was a positive relationship between counselors' listening skills and their compassion satisfaction. In another study conducted by Özabacı et al. (2004), it is emphasized that the ideal characteristics of counselors are important in coping with and protecting from burnout. Similarly, the results of the study conducted by Thompson et al. (2014) revealed that individuals working in the field of mental health using appropriate coping strategies, having self-awareness, and experiencing compassion satisfaction in their professional life have a negative effect on compassion fatigue and burnout.

While counselors are vulnerable to experiencing negative outcomes such as burnout and compassion fatigue, as they provide help and are indirectly exposed to traumatic experiences in their professional lives, they can also experience compassion satisfaction as a result of their role in helping others (Stamm, 2010). On the other hand, effective counselors are considered to be energetic individuals who have the ability to cope with stress, have high self-awareness, are psychologically healthy and take actions to protect their health (Corey, 2008; Hackney & Cormier, 2008; Sommers-Flanagan & Sommers-Flanagan, 2015). In addition, effective counselors can provide effective help during the counseling process and in this direction, they can experience positive states such as being inspired by their work and finding meaning in their work (McLeod, 2009). In conclusion, the characteristics possessed by effective counselors not only help prevent negative experiences such as burnout and compassion fatigue in professional life but also play a supportive role in fostering positive experiences such as compassion satisfaction. These characteristics enable the counselors to maintain their emotional well-being and to experience compassion satisfaction, thereby increasing the effectiveness of the psychological counseling process and facilitating a mutual positive cycle. As counselors attain personal and professional satisfaction and balance, they provide more effective support to their clients. This, in turn, enhances the effectiveness of the counseling process, strengthens the sense of satisfaction for both the counselor and the client, and enables long-term, sustainable development.

Another direct effect that can be addressed within the scope of the research is the effect of psychological capital on professional quality of life. Accordingly, psychological capital has a negative effect on burnout and compassion fatigue among the elements that make up the professional quality of life of counselors, and a positive effect on compassion satisfaction. In the related literature research results showing that psychological capital is supportive of compassion satisfaction (Çakmak & Arabacı, 2017; Erkuş & Fındıklı, 2013) and preventive of compassion fatigue (Bao & Taliaferro, 2015) and burnout (Ocak & Güler, 2017; Tösten et al., 2017) support the findings obtained in this study. The concept of professional quality of life emphasizes that individuals exist not only physically but also cognitively, socially and psychologically in the work environment (Coşkun et al., 2015). At this point, having a strong psychological capital can positively affect employees' professional quality of life. In this context, having strong psychological capital can positively influence employees' professional quality of life. Burnout and compassion fatigue, as negative dimensions of professional quality of life, occur when individuals struggle to cope with work-related stress due to insufficient personal and environmental resources, resulting in decreased job effectiveness (Stamm, 2010). Psychological capital, on the other hand, is related to individuals' having positive thoughts and beliefs that they can achieve a certain performance and success, having the necessary energy to achieve a goal and their ability to cope with and recover from the difficulties they encounter (Luthans & Youssef, 2004). Within the framework of these explanations, it can be said that psychological capital is among the personal resources that help employees cope with negative situations such as burnout and compassion fatigue, and thus plays a protective role against such negativities and a supportive role in experiencing positive situations such as compassion satisfaction.

Finally, the tested hypothetical models regarding the mediating role of psychological capital were supported, and the mediating effects of psychological capital in the relationship between effective counselor characteristics and all dimensions of professional quality of life were found to be significant. First, it was found that psychological capital plays a partial mediating role in the effect of effective counselor characteristics on the subdimension of professional quality of life, namely, compassion satisfaction. Based on these results, it can be said that it is crucial for counselors to possess the characteristics that make them effective and invest in their psychological capital in order to experience compassion satisfaction. When examining the effects of effective counselor characteristics on both compassion fatigue and burnout levels, the results show that psychological capital plays a full mediating role in both cases. These result reveals that it is very important for counselors to invest in their psychological capital, namely hope, optimism, self-efficacy and resilience in order to avoid burnout and compassion fatigue in their professional lives. Both compassion fatigue and burnout, which constitute the negative dimensions of professional quality of life, are essentially adverse conditions that result in the inability to perform the job effectively, stemming from an individual's inability to cope with the demands of the job or work-related stress. It is believed that the effective counselor characteristics play a significant role in preventing these negative conditions for counselors. In this context, certain studies have demonstrated that specific characteristics, such as employees' perception of professionalism (Jang et al., 2016), their helping perception and ability (Mohammadi et al., 2017), and their self-awareness (Killian, 2008), function as preventative factors in the experience of compassion fatigue and burnout. These characteristics also encompass the characteristics that effective counselors should possess. Therefore, it is an expected result that effective counselors, who are expected to be energetic, mentally healthy and have high self-awareness, will experience burnout and compassion fatigue less. Compassion satisfaction, which is another sub-dimension of professional quality of life, reflects a positive aspect of work for counselors, related to the fulfillment and satisfaction derived from doing their job well and being in a helping role (Stamm, 2010). In this context, it is expected that effective counselors who have the necessary equipment to perform their jobs in the best way experience compassion satisfaction in their professional lives. Similarly, it is believed that effective counselor characteristics can serve as a resource that strengthens counselors' psychological capital. Therefore, counselors with high psychological capital are expected to cope with stress, burnout, and compassion fatigue encountered in their professional lives (Bao & Taliaferro, 2015; Javaheri, 2017) as

well as experience compassion satisfaction (Bozgeyikli, 2012; Radeka & Hicks, 2018). In conclusion, it is evident that for counselors to protect themselves from negative experiences like compassion fatigue and burnout, which undermine their professional quality of life, and to experience greater compassion satisfaction in their work, it is crucial for them to invest in their personal development to become more effective and efficient in their roles. Additionally, engaging in activities that strengthen their psychological capital—such as enhancing self-efficacy, hope, optimism, and resilience—plays a vital role. Such investments are not only beneficial for the counselors' personal and professional growth but also contribute to their ability to perform in a healthier, more balanced way within their work environment.

Conclusion, Limitations and Suggestions

In this study, the effects of effective counselor characteristics and psychological capital on counselors' subjective well-being at work (work engagement) and professional quality of life were examined. According to the research results, both effective counselor characteristics and psychological capital have a positive impact on counselors' subjective well-being at work (work engagement) and support them to experience compassion satisfaction, while play a preventive role in preventing them from experiencing burnout and compassion fatigue. In addition, psychological capital has a mediating role in all of the relationships between effective counselor characteristics and work life experiences (work engagement, compassion satisfaction, burnout, and compassion fatigue). While psychological capital plays a determinant role in the effect of effective counselor characteristics on compassion fatigue and burnout, it plays a reinforcing role in the effect of effective counselor characteristics on subjective well-being at work (work engagement) and compassion satisfaction.

In addition to the results obtained in the research, this study has some limitations. The first one is that all the data used in the study were collected through quantitative scales. Effective counselor characteristics and psychological capital are developable traits that play a role in influencing the positive experiences of counselors in their work life and their engagement to their work. In this context, conducting similar studies not only through quantitative methods but also qualitative research is important for a deeper understanding of the effects of these concepts. In recent years, it has been emphasized that qualitative studies exploring the organizational challenges faced by mental health professionals, particularly regarding their working conditions, and how these challenges impact their well-being, can offer valuable insights to improve the professional quality of life and well-being of those who provide help (Mamacı, 2021). In this context, it is thought that qualitative research on how counselors develop and can develop effective counselor characteristics and their effects on overcoming the difficulties they experience is important both in terms of eliminating the problems experienced in the field and increasing the quality of service areas.

Another limitation of the study is that the subjective well-being at work (work engagement) and professional quality of life of counselors were examined specifically within the framework of personal resources, focusing solely on psychological capital. Therefore in future studies, it is suggested that counselors' subjective well-being at work (work engagement) and professional quality of life should be examined in terms of different personal resources as well as external resources such as the characteristics of the work environment, organizational structure and climate and environmental conditions. Thus, the reflections of both internal and external power resources in the work environment can be evaluated more comprehensively and holistically. As a matter of fact, positive and negative experiences of mental health professionals in their work life such as compassion fatigue, burnout and well-being are influenced by various personal resources such as coping strategies, mindfulness, self-care, and mental health (Koller & Hicks, 2016; Sharifian, 2019; Thompson et al., 2014). In addition, organizational factors such as safe working conditions, adequate compensation, compatibility of organizational values with family and social values, workload, caseload, types of leadership, justice and values also play an important role in shaping positive and negative experiences at work (Green et al., 2014; Zengin & Bayram, 2023). Therefore, conducting comparative studies that comprehensively examine internal and external power resources from multiple perspectives can make valuable

contributions in predicting the positive (subjective well-being at work, compassion satisfaction, etc.) and negative experiences (burnout, compassion fatigue, etc.) of mental health professionals at work. It is thought that the findings of such studies will make significant contributions to the development of empowering strategies at both individual and organizational levels in the field of mental health, increasing employee well-being, improving service quality and reducing burnout. In addition, the results of this study are limited to the Turkish sample. Considering the differences between Türkiye and other countries in terms of the training received by counselors, working conditions, working hours, and supervision processes (Aladağ & Kemer, 2016; Falender et al., 2021; Meydan, 2014), it is thought that conducting cross-cultural comparison studies will make important contributions to the literature in terms of generalisability of the results.

Another limitation that can be addressed within the scope of the study is that the study was conducted only on counselors. Considering the common professional competencies (to have knowledge about the basic concepts of psychology, to have knowledge about the basic theories, principles and techniques of psychology, to be able to integrate the concepts, theories, principles and techniques into individual and group counseling practices etc.) (Turkish Qualifications Database, 2025a, 2025b; Türk Psikolojik Danışma ve Rehberlik Derneği, 2022; Vocational Qualifications Authority, 2017); common ethical values (confidentiality, honesty, etc.) (ACA, 2014; American Psychological Association [APA], 2017; American Mental Health Counselors Association [AMHCA], 2020) and common risks (secondary traumatization, etc.) (Zara & İçöz, 2015) that may influence the work-life experiences of mental health professionals, the findings of this study are deemed significant not only for counselors but also for other mental health practitioners. For this reason, it is thought that conducting comparative studies with different professionals working in the field of mental health (psychiatrists, psychotherapists, psychologists, clinical psychologists and psychological counselors, etc.) will contribute to both those who provide help and those who receive help in mental health services.

The findings of this research, along with the studies mentioned earlier, hold significant value for mental health professionals, counselors, counselor candidates, counseling educators, as well as the individuals they serve, such as students, clients, families, and the broader organizations they are part of. Today, counselors serve in various fields such as educational institutions and rehabilitation centers affiliated to the Ministry of National Education, public and private institutions, psychological counseling centers, and non-governmental organizations. Therefore, the work engagement, compassion satisfaction and psychological capital of counselors enhance the quality of their work, thereby contributing to providing more effective support to clients receiving services from various institutions. Similarly, effective counseling characteristics also help clients benefit more from counseling services, and contribute to the counseling process conducting effectively. When the factors explained in detail before, such as the variety of services provided by counselors and the requirements of their training, and the results obtained in this study as a whole, it can be said that it is an inevitable necessity for counselors to invest in themselves professionally and psychologically. At this point, it can be suggested that they participate in in-service trainings that will increase both their qualifications as effective counselors and their psychological capital. It is thought that supporting these trainings at the level of administrators and planning in-service training programs in this context will also support this investment. Additionally, it is recommended that undergraduate programs in Psychological Counseling and Guidance incorporate and expand courses such as Positive Psychology, Organizational Psychology, and Positive Psychology Practices in Schools. These courses should focus on enhancing psychological capital (including self-efficacy, hope, optimism, and resilience) and complement existing theoretical and applied courses (such as Psychological Counseling Principles and Techniques, Psychological Counseling Skills, Individual Counseling Practice, and Group Counseling Practice) that provide hands-on counseling experience under supervision.

References

- Ackerman, S. J., & Hilsenroth, M. J. (2003). A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clinical Psychology Review*, 23(1), 1-33. doi:10.1016/s0272-7358(02)00146-0
- Akbulut, Y. (2010). *Sosyal bilimlerde SPSS uygulamaları: Sık kullanılan istatistiksel analizler ve açıklamalı SPSS çözümleri*. İdeal Kültür ve Yayıncılık.
- Akçay, V. H. (2011). *Pozitif psikolojik sermayenin kişisel değerler bakımından iş tatminine etkisi ve bir araştırma* (Thesis No. 303686) [Doctoral dissertation, İstanbul University]. Council of Higher Education National Thesis Center.
- Aladağ, M., & Kemer, G. (2016). Clinical supervision: An emerging counseling specialty in Turkey. *The Clinical Supervisor*, 35(2), 175-191. <https://doi.org/10.1080/07325223.2016.1223775>
- Alessandri, G., Consiglio, C., Luthans, F., & Borgogni, L. (2018). Testing a dynamic model of the impact of psychological capital on work engagement and job performance. *Career Development International*, 23(1), 33-47. <https://doi.org/10.1108/CDI-11-2016-0210>
- American Counseling Association. (2014). *ACA code of ethics*. https://www.counseling.org/docs/default-source/default-document-library/ethics/2014-aca-code-of-ethics.pdf?sfvrsn=55ab73d0_1
- American Mental Health Counselors Association. (2020). *AMHCA code of ethics*. <https://www.amhca.org/viewdocument/2020-amhca-code-of-ethics?CommunityKey=88ff9fb7-8724-4717-8a7c-4cf1cd0305e9>
- American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct*. <https://www.apa.org/ethics/code/ethics-code-2017.pdf>
- Aniyatussaidah, A., & Herdi, H. (2023). The relationship between of psychological capital and school counsellors burnout: A systematic literature review. *Jurnal Paedagogy*, 10(2), 487-493. <https://doi.org/10.33394/jp.v10i2.6905>
- Arslan, N. (2018). Psikolojik danışmanlarda tükenmişlik: Nitel araştırma örneği. *OPUS International Journal of Society Researches*, 8(15), 1005-1021. <https://doi.org/10.26466/opus.419320>
- Bakker, A. B., & Albrecht, S. (2018). Work engagement: Current trends. *Career Development International*, 23(1), 4-11. <https://doi.org/10.1108/CDI-11-2017-0207>
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309-328. <https://doi.org/10.1108/02683940710733115>
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, 13(3), 209-223. <https://doi.org/10.1108/13620430810870476>
- Bakker, A. B., & Oerlemans, W. (2011). Subjective well-being in organizations. In G. M. Spreitzer & K. S. Cameron (Eds.), *The Oxford handbook of positive organizational scholarship* (pp. 178-189). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199734610.013.0014>
- Baltacı, A. (2018). Nitel araştırmalarda örnekleme yöntemleri ve örnek hacmi sorunsalı üzerine kavramsal bir inceleme. *Bitlis Eren Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 7(1), 231-274.
- Bandura, A. (2010). Self-efficacy. In I. B. Weiner & W. E. Craighead (Eds.), *The Corsini encyclopedia of psychology* (pp. 1-3). John Wiley & Sons. <https://doi.org/10.1002/9780470479216.corpsy0836>
- Bao, S., & Taliaferro, D. (2015). Compassion fatigue and psychological capital in nurses working in acute care settings. *International Journal for Human Caring*, 19(2), 35-40. <https://doi.org/10.20467/1091-5710.19.2.35>
- Ben-Zur, H., & Michael, K. (2007). Burnout, social support, and coping at work among social workers, psychologists, and nurses. *Social Work in Health Care*, 45(4), 63-82. https://doi.org/10.1300/J010v45n04_04

- Bıyık, Y., & Aydoğan, E. (2017, September). *Psikolojik sermayenin iş yaşamı kalitesine etkisi: Banka çalışanlarına yönelik bir araştırma*. Paper presented at the 15. Türk Dünyası Sosyal Bilimler Kongresi, Gagavuzya.
- Bolelli, M. (2020). Psikolojik sermayenin öznel iyi oluş üzerindeki etkileri: Türkiye’de bir araştırma. *International Journal of Management and Administration*, 4(8), 245-259. <https://doi.org/10.29064/ijma.763064>
- Boscarino, J. A., Adams, R. E., & Figley, C. R. (2010). Secondary trauma issues for psychiatrists. *The Psychiatric Times*, 27(11), 24-26.
- Bozgeyikli, H. (2012). Self efficacy as a predictor of compassion satisfaction, burnout, compassion fatigue: A study on psychological counselors. *African Journal of Business Management*, 6(2), 646-651. <https://doi.org/10.5897/AJBM11.2167>
- Buyruk-Genç, A., & Yüksel-Şahin, F. (2020). Examining cognitive flexibility of counselors according to the effective counselor characteristics, counselor self efficacy and some variables. *Cukurova University Faculty of Education Journal*, 49(2), 794-825.
- Capella, M. E., & Andrew, J. D. (2004). The relationship between counselor job satisfaction and consumer satisfaction in vocational rehabilitation. *Rehabilitation Counseling Bulletin*, 47(4), 205-214. <https://doi.org/10.1177/00343552040470040201>
- Carkhuff, R. R. (2014). *21. yüzyılda yardım etme sanatı* (R. Karaca & E. İkiz, Trans.). Nobel.
- Caza, B. B., & Caza, A. (2008). Positive organizational scholarship: A critical theory perspective. *Journal of Management Inquiry*, 17(1), 21-33. <https://doi.org/10.1177/1056492607305907>
- Corey, G. (2008). *Psikolojik danışma, psikoterapi kuram ve uygulamaları* (T. Ergene, Trans.). Mentis.
- Cormier, W. H., & Cormier, L. S. (1991). *Interviewing strategies for helpers* (3rd ed.). Brooks/aCole Publishing Company.
- Coşkun, S., Şarлак, K., & Taştan, H. (2015). Psikiyatri hemşirelerinde öğrenilmiş güçlülük ve iş yaşamı kalitesi: Karşılaştırmalı bir çalışma. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, 4(1), 84-101.
- Çakmak, S. M., & Arabacı, B. İ. (2017). Öğretmenlerin pozitif psikolojik sermaye algılarının iş doyumları ve örgütsel bağlılıkları üzerindeki etkisi. *Elektronik Sosyal Bilimler Dergisi*, 16(62), 890-909. <https://doi.org/10.17755/esosder.282130>
- Çankır, B., & Arıkan, S. (2019). Examining work engagement and job satisfaction variables in their relations with job performance and intention to quit. *İşletme Araştırmaları Dergisi*, 11(2), 1133-1150. <https://doi.org/10.20491/isarder.2019.661>
- Çapri, B., & Demiröz, Z. (2016). Duygusal zekâ düzeyi ve psikolojik danışma öz-yeterlik inançları arasındaki ilişkide etkili psikolojik danışman niteliklerinin aracı rolü. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 12(3), 1037-1048. <https://doi.org/10.17860/mersinefd.282399>
- Demir, Ö. O. (2021). *Seçim teorisi temelli uygulamalarla psikolojik danışman adaylarının akademik motivasyon ve öznel iyi oluşlarının geliştirilmesi: Bir eylem araştırması* (Thesis No. 690836) [Doctoral dissertation, Hasan Kalyoncu University]. Council of Higher Education National Thesis Center.
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, 55(1), 34-43. <https://doi.org/10.1037/0003-066X.55.1.34>
- Diener, E. (2006). Guidelines for national indicators of subjective well-being and ill-being. *Journal of Happiness Studies*, 7(4), 397-404. <https://doi.org/10.1007/s10902-006-9000-y>
- Diener, E., & Ryan, K. (2009). Subjective well-being: A general overview. *South African Journal of Psychology*, 39(4), 391-406. <https://doi.org/10.1177/008124630903900402>
- Dikmen, Y., & Aydın, Y. (2016). Hemşirelerde merhamet yorgunluğu: Ne? Nasıl? Ne yapmalı?. *Journal of Human Rhythm*, 2(1), 13-21.
- Doğan, T., & Sapmaz, F. (2012). Kişiler arası ilişki tarzları ve öznel iyi oluş. *Türk Eğitim Bilimleri Dergisi*, 10(3), 585-602.

- Egan, G. (2011). *Psikolojik danışma becerileri* (Ö. Yüksel, Trans.). Kaknüs.
- Ekşi, H., Ismuk, E., & Parlak, S. (2015). Okul psikolojik danışmanlarında iş doyumunun yordayıcısı olarak psikolojik danışma öz yeterliği ve dinleme becerileri. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 15(2), 84-103. <https://doi.org/10.17240/aibuefd.2015.15.2-5000161314>
- Ekşi, H., Summermatter, A., & Kahraman, A. (2017). A study on guidance teacher's organizational commitment through path analysis with prediction intervals of professional quality of life and self-esteem. *Online Journal of Counseling & Education*, 6(2), 1-16.
- Emre, M. (2019). *Psikolojik danışmanların ve öğretmenlerin iyi oluşlarının, iş yerindeki stres kaynaklarına, çalışma yaşamı kalitelerine ve yaşam stillerine göre yordanması* (Thesis No. 581973) [Master's thesis, Yıldız Teknik University]. Council of Higher Education National Thesis Center.
- Emül, B., & Öz Soysal, F. S. (2021). Psikolojik danışman adaylarının psikolojik danışma becerileri ve özyeterliklerine ilişkin görüşleri. *Batı Anadolu Eğitim Bilimleri Dergisi*, 12(2), 500-514. <https://doi.org/10.51460/baebd.934119>
- Ergin, C. (1992). *Doktor ve hemşirelerde tükenmişlik ve Maslach Tükenmişlik Ölçeğinin uyarlanması*. Paper presented at the VII. Ulusal Psikoloji Kongresi, Ankara.
- Erkuş, A., & Afacan Fındıklı, M. (2013). Psikolojik sermayenin iş tatmini, iş performansı ve işten ayrılma niyeti üzerindeki etkisine yönelik bir araştırma. *İstanbul Üniversitesi İşletme Fakültesi Dergisi*, 42(2), 302-318.
- Eryılmaz, A., & Bek, H. (2019). Danışmanların beklentilerine göre etkili psikolojik danışmanların 15 özelliği. *Kalem Eğitim ve İnsan Bilimleri Dergisi*, 9(1), 273-294. <http://doi.org/10.23863/kalem.2018.106>
- Eryılmaz, A., & Doğan, T. (2012). İş yaşamında öznel iyi oluş: Utrecht işe bağlılık ölçeğinin psikometrik niteliklerinin incelenmesi. *Klinik Psikiyatri Dergisi*, 15(1), 49-55.
- Falender, C., Goodyear, R., Duan, C., Al-Darmaki, F., Bang, K., Çiftçi, A., Ruiz González, V., del Pilar Grazioso, M., Humeidan, M., Jia, X., Kağrıncı, D. Y., & Partridge, S. (2021). Lens on international clinical supervision: Lessons learned from a cross-national comparison of supervision. *Journal of Contemporary Psychotherapy: On the Cutting Edge of Modern Developments in Psychotherapy*, 51(3), 181-189. <https://doi.org/10.1007/s10879-021-09497-5>
- Farber, B. A., & Heifetz, L. J. (1981). The satisfactions and stresses of psychotherapeutic work: A factor analytic study. *Professional Psychology*, 12(5), 621-630. <https://doi.org/10.1037/0735-7028.12.5.621>
- Figley, C. R. (1995). *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat traumatized* (C. R. Figley, Ed.). Routledge.
- Figley, C. R. (2002). Compassion fatigue: Psychotherapists' chronic lack of self care. *Journal of Clinical Psychology*, 58(11), 1433-1441. <https://doi.org/10.1002/jclp.10090>
- Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues*, 30(1), 159-165. <https://doi.org/10.1111/j.1540-4560.1974.tb00706.x>
- Green, A. E., Albanese, B. J., Shapiro, N. M., & Aarons, G. A. (2014). The roles of individual and organizational factors in burnout among community-based mental health service providers. *Psychological Services*, 11(1), 41-49. <https://doi.org/10.1037/a0035299>
- Gülbahar, B. (2017). The relationship between work engagement and organizational trust: A study of elementary school teachers in Turkey. *Journal of Education and Training Studies*, 5(2), 149-159. <https://doi.org/10.11114/jets.v5i2.2052>
- Hackney, H., & Cormier, S. (2008). *Psikolojik danışma ilke ve teknikleri: Psikolojik yardım süreci el kitabı* (T. Ergene ve S. Aydemir-Sevim, Trans.). Mentis.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis* (7th ed.). Pearson.

- Halinski, K. H. (2009). *Predicting beginning master's level counselor effectiveness from personal characteristics and admissions data: An exploratory study* [Doctoral dissertation, University of North Texas]. UNT Digital Library. <https://digital.library.unt.edu/ark:/67531/metadc11038/citation/#top>
- Hayes, A. F. (2018). *Introduction to mediation, moderation and conditional process analysis: A regression-based approach*. The Guilford Press.
- Hernández, P., Gangsei, D., & Engstrom, D. (2007). Vicarious resilience: A new concept in work with those who survive trauma. *Family Process*, 46(2), 229-241. <https://doi.org/10.1111/j.1545-5300.2007.00206.x>
- Hiçdurmaz, D., & Arı İnci, F. (2015). Eşduyumu yorgunluğu: Tanımı, nedenleri ve önlenmesi. *Psikiyatride Güncel Yaklaşımlar*, 7(3), 295-303.
- Hou, J. M. (2015). *Characteristics of highly resilient therapists* [Doctoral dissertation, University of Minnesota]. University Digital Conservancy. <https://hdl.handle.net/11299/175469>
- İkiz, E., & Totan, T. (2014). Etkili psikolojik danışman niteliklerinin değerlendirilmesine ilişkin ölçek geliştirme çalışması. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, 5(42), 269-279.
- Jackson, M., & Thompson, C. L. (1971). Effective counselor: Characteristics and attitudes. *Journal of Counseling Psychology*, 18(3), 249-254. <https://doi.org/10.1037/h0030862>
- Jang, I., Kim, Y., & Kim, K. (2016). Professionalism and professional quality of life for oncology nurses. *Journal of Clinical Nursing*, 25(19-20), 2835-2845. <https://doi.org/10.1111/jocn.13330>
- Javaheri, A. (2017). *Psychological capital: An internal resource for counseling students coping with academic and clinical stress* [Doctoral dissertation, The College of William & Mary]. William & Mary Digital Library. <https://scholarworks.wm.edu/etd/1499450019/>
- Jennings, L., & Skovholt, T. M. (1999). The cognitive, emotional, and relational characteristics of master therapists. *Journal of Counseling Psychology*, 46(1), 3-11. <https://doi.org/10.1037/0022-0167.46.1.3>
- Joo, B. K., Lim, D. H., & Kim, S. (2016). Enhancing work engagement. *Leadership & Organization Development Journal*, 37(8), 1117-1134. <https://doi.org/10.1108/lodj-01-2015-0005>
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692-724. <https://doi.org/10.2307/256287>
- Kalaycı, Ş. (2010). *SPSS uygulamalı çok değişkenli istatistik teknikleri* (5th ed). Asil Yayın Dağıtım.
- Kalay Usta, T., & Deniz, M. E. (2019). Psikolojik danışmanların ruh sağlığı sürekliliğinin yordanması: Etkili psikolojik danışman nitelikleri ve kariyer uyumluluğunun rolü. *Kariyer Psikolojik Danışmanlığı Dergisi*, 2(2), 215-237.
- Karasar, N. (2016). *Bilimsel araştırma yöntemi: Kavramlar-ilkeler-teknikler*. Nobel.
- Karatepe, O. M., & Karadas, G. (2015). Do psychological capital and work engagement foster frontline employees' satisfaction? A study in the hotel industry. *International Journal of Contemporary Hospitality Management*, 27(6), 1254-1278. <https://doi.org/10.1108/IJCHM-01-2014-0028>
- Kerr, A. W., Hall, H. K., & Kozub, S. A. (2002). *Doing statistics with SPSS*. Sage
- Killian, K. D. (2008). Helping till it hurts? A multimethod study of compassion fatigue, burnout, and self-care in clinicians working with trauma survivors. *Traumatology*, 14(2), 32-44. <https://doi.org/10.1177/1534765608319083>
- Koller, S. L., & Hicks, R. E. (2016). Psychological capital qualities and psychological well-being in Australian mental health professionals. *International Journal of Psychological Studies*, 8(2), 41-53. <https://doi.org/10.5539/ijps.v8n2p41>
- Korkut-Owen, F., Tuzgöl-Dost, M., & Bugay-Sökmez, A. (2018). Psikolojik danışman eğitiminde mesleğe ilişkin (profesyonel) kişisel eğilimi değerlendirme: Ölçek geliştirme çalışması. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, 8(49), 173-191.

- Larsen, D., & Stamm, B. H. (2008). Professional quality of life and trauma therapists. In S. Joseph & P. A. Linley (Eds.), *Trauma, recovery, and growth: Positive psychological perspectives on posttraumatic stress* (pp. 275-293). John Wiley & Sons, Inc. <https://doi.org/10.1002/9781118269718.ch14>
- Laverdière, O., Kealy, D., Ogrodniczuk, J. S., Chamberland, S., & Descôteaux, J. (2019). Psychotherapists' professional quality of life. *Traumatology*, 25(3), 208-215. <https://doi.org/10.1037/trm0000177>
- Lawson, G., & Myers, J. E. (2011). Wellness, professional quality of life, and career-sustaining behaviors: What keeps us well?. *Journal of Counseling & Development*, 89(2), 163-171. <https://doi.org/10.1002/j.1556-6678.2011.tb00074.x>
- Linley, P. A., & Joseph, S. (2007). Therapy work and therapists' positive and negative well-being. *Journal of Social and Clinical Psychology*, 26(3), 385-403. <https://doi.org/10.1521/jscp.2007.26.3.385>
- Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, 23(6), 695-706. <https://doi.org/10.1002/job.165>
- Luthans, F., & Youssef, C. M. (2004). Human, social, and now positive psychological capital management: Investing in people for competitive advantage. *Organizational Dynamics*, 33(2), 143-160. <https://doi.org/10.1016/j.orgdyn.2004.01.003>
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60(3), 541-572. <https://doi.org/10.1111/j.1744-6570.2007.00083.x>
- Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital. *Business Horizons*, 47(1), 45-50. <https://doi.org/10.1016/j.bushor.2003.11.007>
- Luthans, F., Youssef-Morgan, C. M., & Avolio, B. J. (2015). *Psychological capital and beyond*. Oxford University Press.
- Maddux, J. E., & Kleiman, E. M. (2016). Self-efficacy: A foundational concept for positive clinical psychology. In A. M. Wood & J. Johnson (Eds.), *The wiley handbook of positive clinical psychology* (pp. 89-101). Wiley-Blackwell.
- Mamacı, M. (2021). Ruh sağlığı çalışanlarının çeşitli değişkenler açısından karşılaştırması: Duygusal emek, psikolojik sermaye ve iyi oluş. *OPUS International Journal of Society Researches*, 17(35), 2030-2051. <https://doi.org/10.26466/opus.801638>
- Maslach, C., & Goldberg, J. (1998). Prevention of burnout: New perspectives. *Applied and Preventive Psychology*, 7(1), 63-74. [https://doi.org/10.1016/S0962-1849\(98\)80022-X](https://doi.org/10.1016/S0962-1849(98)80022-X)
- Maslach, C., & Leiter, M. P. (2016). Burnout. In G. Fink (Ed.), *Stress: Concepts, cognition, emotion, and behavior: Handbook of stress* (pp. 351-359). Elsevier. <https://doi.org/10.1016/B978-0-12-800951-2.00044-3>
- McLeod, J. (2009). *An introduction to counseling*. McGraw-Hill Education.
- Meydan, B. (2014). Psikolojik danışman adaylarına psikolojik danışma becerilerinin kazandırılması: Karşılaştırmalı bir inceleme. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 29(3), 110-123
- Mohammadi, M., Peyrovi, H., & Mahmoodi, M. (2017). The relationship between professional quality of life and caring ability in critical care nurses. *Dimensions of Critical Care Nursing*, 36(5), 273-277. <https://doi.org/10.1097/dcc.0000000000000263>
- Morse, G., Salyers, M. P., Rollin's, A. L., Monroe DeVita, M., & Pfahler, C. (2012). Burnout in mental health services: A review of the problem and its remediation. *Administration and Policy in Mental Health*, 39(2), 341-352. <https://doi.org/10.1007/s10488-011-0352-1>
- Mullen, P. R., & Gutierrez, D. (2016). Burnout, stress and direct student services among school counselors. *The Professional Counselor*, 6(4), 344-359. <https://doi.org/10.15241/pm.6.4.344>

- Mullen, P. R., Blount, A. J., Lambie, G. W., & Chae, N. (2017). School counselors' perceived stress, burnout, and job satisfaction. *Professional School Counseling, 21*(1), 1-10. <https://doi.org/10.1177/2156759x18782468>
- Ocak, M., & Güler, M. (2017). Psikolojik sermayenin tükenmişlik üzerine etkisi: Görgül bir araştırma. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, (49)*, 117-134. <https://doi.org/10.18070/erciyesiibd.323907>
- Odacı, H., Topal, N., & Özer, Ş. (2021). Okul danışmanlarının psikolojik iyi oluşları üzerinde psikolojik sermaye ve başa çıkma tarzlarının rolü. *Dokuz Eylül Üniversitesi Buca Eğitim Fakültesi Dergisi, (52)*, 536-556. <https://doi.org/10.53444/deubefd.935695>
- Oğuzhan, T., Beğenirbaş, M., & Topcu, M. K. (2017). İş tatmininin belirleyicileri olarak psikolojik sermaye ve duygusal emek: Banka çalışanları üzerine bir araştırma. *Business & Management Studies: An International Journal, 5*(2), 330-344. <https://doi.org/10.15295/bmij.v5i2.116>
- Olivier, A., & Rothmann, S. (2007). Antecedents of work engagement in a multinational company. *SA Journal of Industrial Psychology, 33*(3), 49-56. <https://doi.org/10.4102/sajip.v33i3.396>
- Orhaner, E., & Mutlu, S. (2018). Sağlık personelinin iş tatmininin motivasyon üzerine etkisi. *Uluslararası Sağlık Yönetimi ve Stratejileri Araştırma Dergisi, 4*(1), 74-93.
- Özabacı, N., İşmen, E., & Yıldız, A. S. (2004). Psikolojik danışmanların ideal özellikleri ile yılgınlık düzeylerinin karşılaştırması. *Kuram ve Uygulamada Eğitim Yönetimi, 37*(37), 8-25.
- Özdamar, K. (2004). *Paket programlar ile istatistiksel veri analizi II*. Kaan Kitabevi
- Özdamar, S., & Özeke Kocabaş, E. (2023). Counselors' psychological counseling skills and attitudes towards providing counseling help on professional satisfaction. *TAY Journal, 7*(4), 738-765. <https://doi.org/10.4102/sajip.v33i3.396>
- Özer, E., & Deniz, M. E. (2014). An investigation of university students' resilience level on the view of trait emotional EQ. *Elementary Education Online, 13*(4), 1240-1248.
- Pamukçu, B., & Demir, A. (2013). Psikolojik Danışma Öz-Yeterlik Ölçeği Türkçe Formu'nun geçerlik ve güvenilirlik çalışması. *Türk Psikolojik Danışma ve Rehberlik Dergisi, 4*(40), 212-221.
- Patel, R. (2018). *Compassion fatigue among mental healthcare providers and the impact on overall wellbeing* [Doctoral dissertation, University of San Francisco]. <https://repository.usfca.edu/diss/456/>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879-891. <https://doi.org/10.3758/BRM.40.3.879>
- Radeka, M., & Hicks, R. (2018). Vicarious exposure to trauma in Australian migration agents: the role of empathy and psychological capital in compassion satisfaction. *GSTF Journal of Psychology (JPsych), 4*(1), 1-7. https://doi.org/10.5176/2345-7929_4.1.105
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66*(4), 701-716. <https://doi.org/10.1177/0013164405282471>
- Schaufeli, W. B., Salanova, M., Gonzalez-Roma, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3*, 71-92. <https://doi.org/10.1023/A:1015630930326>
- Sharifian, B. (2019). *Examining the relationship between self-care and professional quality of life in counseling and clinical psychology trainees* [Master's thesis, University of Texas]. Scholar Works at UT Tyler. https://scholarworks.uttyler.edu/psychology_grad/7/
- Shimazu, A., & Schaufeli, W. B. (2008). Work engagement: An emerging concept in occupational health psychology. *BioScience Trends, 2*(1), 2.

- Silveira, F. S., & Boyer, W. (2015). Vicarious resilience in counselors of child and youth victims of interpersonal trauma. *Qualitative Health Research*, 25(4), 513-526. <https://doi.org/10.1177/1049732314552284>
- Simons, J. C., & Buitendach, J. H. (2013). Psychological capital, work engagement and organisational commitment amongst call centre employees in South Africa. *SA Journal of Industrial Psychology*, 39(2), 1-12. <https://doi.org/10.4102/sajip.v39i2.1071>
- Sipahi, B., Yurtkoru, E. S., & Çinko, M. (2010). *Sosyal bilimlerde SPSS'le veri analizi*. Beta Basım Yayım Dağıtım.
- Siu, O. L. (2013). Psychological capital, work well-being, and work-life balance among chinese employees. *Journal of Personnel Psychology*, 12(4), 170-181. <https://doi.org/10.1027/1866-5888/a000092>
- Skovholt, T. M. (2012). The counselor's resilient self. *Turkish Psychological Counseling & Guidance Journal*, 4(38), 137-146.
- Snyder, C. R., Irving, L., & Anderson, J. R. (1991). Hope and health: Measuring the will and the ways. In C. R. Snyder & D. R. Forsyth (Eds.), *Handbook of social and clinical psychology: The health perspective* (pp. 285-305). Pergamon Press.
- Sommers-Flanagan, J., & Sommers-Flanagan, R. (2015). *Klinik görüşme: Psikolojik değerlendirme esasları* (G. Akbaş & L. Korkmaz, Trans.). İthaki.
- Stamm, B. H. (2005). *The ProQOL manual: The professional quality of life scale: Compassion satisfaction, burnout and compassion fatigue/secondary trauma scales*. <http://www.compassionfatigue.org/pages/ProQOLManualOct05.pdf>
- Stamm, B. H. (2010). *The Concise ProQOL manual*. <https://proqol.org/proqol-manual>
- Şahin, N. H., & Durak, A. (1994). Kısa semptom envanteri: Türk gençleri için uyarlanması. *Türk Psikoloji Dergisi*, 9(31), 44-56.
- Şantaş, F., Işık, O., & Çilhoroz, Y. (2018). Hemşirelerin iş yaşam kalitesi, iş motivasyonu ve yaşam tatmini algıları arasındaki ilişkilerin incelenmesi. *Journal of Management and Economics Research*, 16(1), 64-76. <https://doi.org/10.11611/yead.374958>
- Tanrıverdi, H., & Sarıhan, M. (2013). İşe bağlılığın tükenmişlik ve depresyon düzeyleri üzerindeki etkileri: Sağlık çalışanları üzerinde bir araştırma. *Business & Management Studies: An International Journal*, 1(2), 206-228. <https://doi.org/10.15295/bmij.v1.i2.34>
- Taytaş, M., & Tanhan, F. (2021). Psikolojik Danışman Yeterlik Algısı Ölçeği: Geçerlik ve güvenirlik çalışması. *Journal of Computer and Education Research*, 9(18), 1037-1058. <https://doi.org/10.18009/jcer.983718>
- Thomas, F. (1999). Competency-based relationship counseling: The necessity of goal setting and counselor flexibility in efficient and effective couples counseling. *Journal of Pastoral Care*, 53(1), 87-99. <https://doi.org/10.1177/002234099905300110>
- Thompson, I., Amatea, E., & Thompson, E. (2014). Personal and contextual predictors of mental health counselors' compassion fatigue and burnout. *Journal of Mental Health Counseling*, 36(1), 58-77. <https://doi.org/10.17744/mehc.36.1.p61m73373m4617r3>
- Tösten, R., Arslantaş, H. İ., & Şahin, G. (2017). Öğretmenlerin pozitif psikolojik sermayelerinin tükenmişliğe etkisi. *Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi*, 14(1), 726-744. <https://doi.org/10.23891/efdyyu.2017.28>
- Turkish Qualifications Database. (2025a). *Bachelor's degree in psychology*. https://portal.tyc.gov.tr/yeterlilikarama?yeterlilikkodu=&yeterlilikadi=Psikoloji&router_yeterlilikler_path_tpublish=2&belgetipi=10&kurulus=0&tycseviye=6&tematikkodu=0

- Turkish Qualifications Database. (2025b). *Bachelor's degree in psychological counseling and guidance*. https://portal.tyc.gov.tr/yeterlilikarama?yeterlilikkodu=&yeterlilikadi=Rehberlik+ve+Psikolojik+Dan%C4%B1%C5%9Fmanl%C4%B1k+Lisans+Diplomas%C4%B1&router_yeterlilikler_path_tpublis h=2&belgetipi=10&kurulus=0&tycseviye=6&tematikkodu=0
- Türk Psikolojik Danışma ve Rehberlik Derneği Psikolojik Danışma Rehberlik Eğitimi Programlarını Değerlendirme ve Akreditasyon Birimi. (2022). *Psikolojik danışma ve rehberlik lisans eğitimi ulusal standartları*. <https://pdr.org.tr/wp-content/uploads/2022/05/Turk-PDR-Dernegi-PDR-EPDAB-PDR-Lisans-Egitimi-Ulusal-Standartlari-Surum1.0-27.04.2022-1.docx>
- Uslu, M., & Arı, R. (2005). Psikolojik danışmanların danışma becerisi düzeylerinin incelenmesi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (14), 509-519.
- Vaillant, G. E. (2003). Mental health. *American Journal of Psychiatry*, 160(8), 1373-1384. <https://doi.org/10.1176/appi.ajp.160.8.1373>
- Van den Heuvel, M., Demerouti, E., Bakker, A. B., & Schaufeli, W. B. (2010). Personal resources and work engagement in the face of change. In J. Houdmont & S. Leka (Eds), *Contemporary occupational health psychology: Global perspectives on research and practice* (pp. 124-150). Wiley-Blackwell. <https://doi.org/10.1002/9780470661550.ch7>
- Van Laar, D., Edwards J. A., & Easton, S. (2007). The work-related quality of life scale for healthcare workers. *Journal of Advanced Nursing*, 60(3), 325-333 <https://doi.org/10.1111/j.1365-2648.2007.04409.x>
- Vocational Qualifications Authority. (2017). *The national occupational standard for psychological counselors*. https://portal.myk.gov.tr/index.php?option=com_meslek_std_taslak&view=taslak_listesi_yeni&msd=2&Itemid=432
- Wampold, B. E. (2011). *Qualities and actions of effective therapists*. American Psychological Association Education Directorate. https://web.archive.org/web/20180721165421id_/http://www.apa.org/education/ce/effective-therapists.pdf
- Wardani, L. M. I., & Anwar, M. S. (2019). The role of quality of work life as mediator: Psychological capital and work engagement. *Humanities & Social Sciences Reviews*, 7(6), 447-463. <https://doi.org/10.18510/hssr.2019.7670>
- Wicas, E. A., & Mahan, T. W. (1966). Characteristics of counselors rated effective by supervisors and peers. *Counselor Education and Supervision*, 6(1), 50-56. <https://doi.org/10.1002/j.1556-6978.1966.tb00448.x>
- Wiggins, J., & Weslander, D. (1979). Personality characteristics of counselors rated as effective or ineffective. *Journal of Vocational Behavior*, 15(2), 175-185. [https://doi.org/10.1016/0001-8791\(79\)90036-8](https://doi.org/10.1016/0001-8791(79)90036-8)
- Yalçın, İ. (2006). 21. yüzyılda psikolojik danışman. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 39(1), 117-133.
- Yates, T. M., Egeland, B., & Sroufe, A. (2003). Rethinking resilience. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversity* (pp. 243-266). Cambridge University Press. <https://doi.org/10.1017/CBO9780511615788.012>
- Yayla, E., & İkiz, F. E. (2017). Psikolojik danışmanların etkili nitelikleri ile danışma özyeterlik düzeyleri arasındaki ilişki. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, 7(48), 31-44.
- Yeni, H., & Sezici, E. (2022). Pozitif psikolojik sermayenin iş stresi üzerindeki etkisinin belirlenmesi. *Alanya Akademik Bakış*, 6(2), 2379-2397. <https://doi.org/10.29023/alanyaakademik.1059474>
- Yerin Güneri, O., Skovholt, T. M., Ünlü Kaynakçı, F. Z., & Aydın, G. (2017). Skovholt profesyonel sağlık ve öz bakım envanterinin geçerlik ve güvenirlik çalışması. *Yıldız Journal of Educational Research*, 2(2), 1-18. <https://doi.org/10.51280/yjer.2017.012>

- Yeşil, A., Ergün, Ü., Amasyalı, C., Er, F., Olgun, N. N., & Aker, A. T. (2010). Çalışanlar için yaşam kalitesi ölçeği Türkçe uyarlaması geçerlik ve güvenilirlik çalışması. *Nöropsikiyatri Arşivi Dergisi*, 47(7), 111-117. <https://doi.org/10.4274/npa.5210>
- Yeşiltaş, A., Şahin, S., & Serezli, G. (2019). Çalışan mutluluğunun ve işe bağlılığın örgüt performansına etkisi. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 11(30), 664-673. <https://doi.org/10.20875/makusobed.555411>
- Yıldırım Kurtuluş, H., & Yüksel Şahin, F. (2022). Psikolojik danışmanların etkili psikolojik danışman nitelikleri, mesleki kıvançları ve mesleki doyumlarının incelenmesi. *Ulakbilge Sosyal Bilimler Dergisi*, 10(72), 447-468.
- Yıldırım Kurtuluş, H., & Yüksel Şahin, F. (2023). Moderating role of effective counselor characteristics in the relationship between the behaviors of counselors' supervisors and their professional pride and job satisfaction. *Hacettepe University Journal of Education*, 38(3), 317-334. <https://doi.org/10.16986/HUJE.2023.489>
- Yılmaz, O., & Ergene, T. (2022). Etkili psikolojik danışmanların özellikleri. *Trakya Eğitim Dergisi*, 12(3), 1198-1217. <https://doi.org/10.24315/tred.912277>
- Zara, A., & İçöz, F. (2015). Türkiye'de ruh sağlığı alanında travma mağdurlarıyla çalışanlarda ikincil travmatik stres. *Klinik Psikiyatri*, 18(1), 15-23.
- Zengin, Y., & Bayram, N. (2023). İnsana yakışır işin öznel iyi oluş ve işten ayrılma niyetine etkisi. *Bingöl Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 7(1), 223-239. <https://doi.org/10.33399/biibfad.1234021>



Determinants of public education spending in the Turkish provinces

Ebru Çağlayan Akay ¹, Mustafa Çelen ², Serdar Yılmaz ³

Abstract

The effective provision of public education service delivery is very important for all countries. It is especially important for Türkiye as the country faces a possibility of getting stuck in the middle-income trap. The country spends a large sum of budgetary resources on public education. However, the determination of the resource envelope at the provincial level does not take local socio-economic and demographic dynamics into account. We analyze the determinants of public education spending at the provincial level for the period of 2008-2021. Our findings suggest that the economic composition of provinces together with the student-teacher ratio and enrollment rate influence the resource needs for education services. However, there is a discrepancy between primary and secondary education in terms of student-teacher ratio and enrollment rate as they influence the outcome in different directions.

Keywords

Education expenditures
Public education expenditures
Provincial level public education expenditures
Student-teacher ratio
Enrollment rate
Student population density
Panel data analysis

Article Info

Received: 02.20.2024
Accepted: 02.04.2025
Published Online: 08.25.2025

DOI: 10.15390/ES.2025.2574

Introduction

Countries prioritize human capital accumulation to be competitive in the world of knowledge economy. Human capital development is only possible by increasing the quality and quantity of education. As a high middle-income country, one of the challenges Türkiye faces is the middle-income trap. The middle-income trap is an economic development level in which a country gets stuck in after attaining certain level economic development (Gill et al., 2007). The term describes major economies like Brazil, Argentina and Türkiye which face serious challenges related to economic growth, wage competition and innovation. International Monetary Fund (IMF) notes that middle-income countries are “caught between the rapidly changing advanced technology of rich countries, and competition in mature products from poor countries with low wages” (Imam & Temple, 2024). In order to avoid the middle-income trap Türkiye invests a large sum of budgetary resources to improve public education system. According to the Turkish Statistics Institute, Türkiye spent 3.9 percent of the gross domestic product (GDP) on education in 2022 (Turkish Statistical Institute [TURKSTAT], 2024a). These budgetary resources are largely expensed at the provincial level. However, there is a significant variation across provinces of Türkiye in per capita education spending.⁴ Providing an explanation for this variation is a major motivation of this paper.

¹ Marmara University, Faculty of Economics, Department of Econometrics, İstanbul, Türkiye, ecaglayan@marmara.edu.tr

² Marmara University, Faculty of Economics, Department of Public Finances, İstanbul, Türkiye, mcelen@marmara.edu.tr

³ World Bank, Washington D.C., USA; Marmara University, Faculty of Economics, Department of Economics, İstanbul, Türkiye, syilmaz@worldbank.org

⁴ The amount of per capita provincial education expenditures is calculated by dividing total provincial education expenditures (Ministry of Treasury and Finance, 2024) by the provincial population (TURKSTAT, 2024b).

Although, the question of what determines the allocation and distribution of public education expenditures is studied extensively in the literature, the question of variation in education expenditures across spending units is an understudied area of inquiry. It is especially an understudied research question for subnational levels of government in developing countries like Türkiye. The literature on the allocation and distribution of budgetary resources for education service delivery at the national level investigates the role of both economic and non-economic factors (Almadin et al., 2022; Busemeyer, 2007; Castles, 1989; Cristobal et al., 2022; Dragomirescu-Gaina, 2015; Jabbar & Selvaratnam, 2017; Imana, 2017; Sagarik, 2013; Sheikh, 2019; Strawczynski & Zeira, 2003; Yun & Yusoff, 2018). However, there is a limited number of studies investigating the same question at the subnational levels outside of the U.S. (Fernandez & Rogerson, 1997; Hirsch, 1960; McMahon, 1970; Nord, 1983; Porteba, 1997; Shapiro, 1962) Verbina and Chowdhury (2004) studied the Russian Federation; Chakrabarti and Joglekar (2006) researched Indian states; Grob and Wolter (2007) analyzed the Swiss cantons; and Bischoff and Prasetyia (2019) focused on Indonesian districts. There is no study looking into this question in Türkiye.

The objective of this study is to analyze the determinants of public education expenditures at the provincial level in Türkiye. The main reason for analyzing this question at the provincial level is the role of provincial administrations in executing the education budget.⁵ The provincial administrations in Türkiye execute the budget allocated to the Ministry of National Education at the provincial level by deploying teachers, overseeing school construction projects, and distributing teaching materials and supplies to schools. As there is a huge diversity across Turkish provinces, the capacity of provincial administrations in executing the education budget varies as well. There are various reasons for budget variance across provincial administrations.⁶ We hypothesize that there is a strong statistical relationship between per capita total education spending at the provincial level and the share of agriculture in total provincial economy, student-teacher ratio, enrollment rate and student population density.

This variation in education expenditures is due to the size and diversity of the country. Türkiye is large and heterogenous country. Out of 85 million people, about 16 million people live in Istanbul province (18.65 percent of total population). In contrast, Bayburt province has 85 thousand inhabitants (0.1 percent of total population). More importantly, there are extreme inequalities across provinces, with the GINI coefficient for regions ranging from 0.342 to 0.449. In terms of contribution to the gross domestic product, only five provinces are responsible for more than half of the national GDP (53.9 percent in 2022) and the share of the rest of 76 provinces is less than 50 percent (TURKSTAT, 2024a).

There is a substantial body of literature on the determinants of public education expenditures (Almadin et al., 2022; Bischoff & Prasetyia, 2019; Busemeyer, 2007; Castles, 1989; Chakrabarti & Joglekar, 2006; Cristobal et al., 2022; Dragomirescu-Gaina, 2015; Fernandez & Rogerson, 1997; Grob & Wolter, 2007; Hirsch, 1960; Imana, 2017; Jabbar & Selvaratnam, 2017; McMahon, 1970; Nord, 1983; Porteba, 1997; Sagarik, 2013; Shapiro, 1962; Sheikh, 2019; Strawczynski & Zeira, 2003; Verbina & Chowdhury, 2004; Yun & Yusoff, 2018). However, the existing literature on Türkiye focuses on the determinants of

⁵ Türkiye is a unitary country with a dual structure local government system: the appointed deconcentrated local governments (provinces), headed by governors, and decentralized local governments (municipalities), elected by people (Yılmaz & Guner, 2013). The whole territory of the country is divided into 81 territorial administrations, namely provinces. The head of provincial administration is a governor, who is appointed by the central government. The education service delivery is not devolved to municipalities. It is the responsibility of the central government. The central government is responsible for all educational expenses of the public—nearly 10 percent of the total government budget is allocated for national education. The Ministry of National Education (MEB) runs educational administration of the country and is responsible for drawing up curricula and developing educational materials, as well as recruiting teachers and designing and building schools. In the provinces, educational affairs are organized by the Directorates of National Education appointed by the education minister, but working under the direction of the provincial governor. The director of national education in a province is responsible for the management of the teachers as well as executing the education budget apportioned to that province.

⁶ A budget variance refers to the difference between budgeted amount and actual spending amount.

household education expenditures rather than public expenditures (Acar, Cilasun et al., 2016; Acar, Günalp et al., 2016; Bayar & Bengi, 2016). In that sense, there is a gap in the literature as there are no studies that analyze the determinants of public education expenditures. More importantly, there are no studies focusing on the role of provincial administrations in executing the provincial education budget to achieve educational outcomes. This study contributes to the literature by analyzing the determinants of public education expenditures at the provincial level in Türkiye for the period of 2008-2021. Specifically, we investigate the variation in per capita public expenditure patterns across provinces in primary and secondary education.

The next section provides a brief literature review on the determinants of public education expenditures. The following section discusses the method of analysis including model specification, definition of variables, and hypotheses. The fourth section presents the findings of our analysis, and the last section concludes the paper with discussions and suggestions for further research.

Literature Review

The multi-disciplinary literature on the determinants of public education spending is rich with theoretical formulations and empirical testing of relationships. However, both the theoretical formulations and empirical findings remain inconclusive on what explains the level of education spending at national or subnational levels. There are three groups of studies in the literature. The first group of studies presents evidence from cross-country analysis, whereas others use national or subnational levels as the unit of analysis.

The first group of studies using cross-country analysis investigate the role of both economic and non-economic factors in determining education expenditures. In a cross-country analysis, Castles (1989) analyzes the variation in total public education spending, including tertiary education, across the OECD countries. According to his analysis, the most important explanatory variables are religion, presence of rightwing parties in government and student enrolment in the tertiary education sector. Replicating Castles' model in a similar study, Busemeyer (2007) analyzes the same question with a different set of variables under the headings of socio-economic, political and institutional determinants in 21 OECD countries. He presents evidence showing the level of economic development, the share of young population, constitutional veto power, the level of social spending and revenue decentralization as the main determinants of public education spending.

In a similar study, Dragomirescu-Gaina (2015) analyzes the main determinants of public education spending across EU member states for a period of 2000-2012. He estimates a four-equation system to understand the drivers of public education spending—three equations focusing on primary, secondary and tertiary education and a fourth one on total education spending. Unfortunately, his findings are not conclusive—the empirical results are sensitive to basic robustness checks.

The second group of studies focuses on national factors in a single country context. They also use both economic and non-economic variables to explain the determinants of national public education expenditures in a single country context. They investigate the role of factors such as socio-economic composition, demographic structure, and economic development level as well as political and institutional systems in determining education service delivery spending levels. Strawczynski and Zeira (2003), for example, analyze education spending in Israel from 1962 to 1998 by using various demographic, economic, and political variables. They find that demographic variables, such as population size and share of minority student (Arab) and an economic variable (per capita GDP) explain a significant portion of education spending in Israel.

Sagarik (2013) investigates public education expenditures in Thailand by using a number of socio-economic, demographic, political and institutional variables for the period 1982-2010. His results indicate that prior year's expenditure are the main determinants of current year total education spending. However, he also finds that inflation, unemployment and the share of indirect tax to total tax also have an impact on total education spending. In terms of current versus capital expenditures, last year's expenditures and industrialization have positive impact on current spending but no impact on

capital expenditures. Inflation and the share of indirect tax have negative impact on current expenditures and no impact on capital, whereas unemployment has a negative impact on capital expenditures, but no impact on current spending.

There are two empirical analyses on the determinants of education expenditures in Malaysia. In the first study, Jabbar and Selvaratnam (2017) present evidence that budget deficits and revenue collections have significant positive impact on education spending, whereas demographic variables have no impact on education spending. In a second study, Yun and Yusoff (2018) analyze the determinants of public education spending in Malaysia during the period of 1982-2016. They identified real gross domestic product growth rate, unemployment rate, inflation rate and working age population as the main determinants of public education expenditures.

Imana (2017) examines the role of economic-demographic dynamics, money quantity, compensation, incremental, political and fiscal factors that affect the growth of public education expenditures for a period of 1980 to 2014 in Kenya. His analysis presents mixed results since variables in each of these factors had positive and negative signs; however, his model with economic-demographic variables presents the most robust results, showing that lagged expenditures, employment of more teachers, budget deficits and real per capita income have a positive impact on education spending.

Sheikh (2019) tries to answer the same question in the context of Bangladesh by using economic-demographic, decision-making and political factors, as well as governance indicators. His findings suggest that public education expenditures are mostly influenced by the previous year's spending and indirect taxes. In addition, he argues that total population and government effectiveness have a positive impact on levels of education expenditures.

Like Malaysia, there are two studies on the Philippines as well. In the first study, Almadin et al. (2022) examines the determinants of public education spending in the Philippines from 1989 to 2018 using time series data. Their findings show that gross domestic product per capita and lagged public education expenditures are the most important determinants of education spending in the Philippines. They could not find a statistically significant relationship between education spending and unemployment rate and urbanization growth. In a second study, Cristobal et al. (2022) looks into the same question for the period 1990 to 2019. Their results show that economic growth, tax, and population growth are the most important determinants of the public education spending in the Philippines.

The third group of studies focus on analyzing the determinants of education spending at the subnational levels. In a pioneering study, Hirsch (1960)—using data from two different periods of 1951 to 1952 and 1954 to 1955—analyzes the determinants of public education spending in U.S. states. According to his findings, population size, age structure of population, the size of school district, economic and governmental characteristics play an important role in determining the level of education spending.

Later, Shapiro (1962) examined the socioeconomic factors to explain differences in the level of per student expenditures in the southern versus non-southern states of the U.S. for the years 1920, 1930, 1940 and 1950. Although he used an exhaustive list of variables, ranging from per capita personal income to percentages of minority population, school age children, urban population, labor force, public enrollment, his findings were inconclusive. Similarly, McMahon (1970) examined the determinants of state level expenditure spending in the U.S using two different models. His structural model consists of factors of production cost, revenue sources and demand for education in a cross-sectional analysis that identifies school-age children as a per cent of the population, substitutes for public schools, and pupils per teacher as important determinants for the state level public education expenditures. However, in the time-series model, only the school-age children population from the cross-sectional model are a significant factor. Additional factors such as state aid to schools and unemployment were affecting state level education spending whereas state revenue from taxes didn't have any impact.

In a more micro-level analysis, Nord (1983) investigates the determinants of education expenditures in 100 countywide school districts in North Carolina for the 1970-71 school year. He uses family income, property values, percentage of students attending private schools, children between 5 and 18 as percentage of population, population density, median educational level of population, state aid, federal aid, average teacher salary and student-teacher ratio as explanatory variables. He shows that only median family income in these jurisdictions has a positive impact on public education expenditures.

Fernandez and Rogerson (1997) examine the determinants of education spending in the U.S. states by employing a panel data set over the period from 1950 to 1990. Their analysis presents evidence that per student expenditures grew at the same rate as personal income per student.

Porteba (1997) analyzes the relationship between demographic structure and per student education spending in the US states between 1960 and 1990. The main finding is that the increase in the share of elderly population reduces per capita education spending.

In terms of studies outside of the U.S., Verbina and Chowdhury (2004) perform a panel data analysis for 88 regions in the Russian Federation for the period of 1999-2000. Their results show that budget revenue and student-population ratio, measured as the number of students per thousand inhabitants, have positive impacts on education expenditures, whereas population density has a negative impact.

Chakrabarti and Joglekar (2006) focus government financing of education on 15 Indian states from 1980-81 to 1999-2000. Their analysis show that per capita income is positively correlated with total education expenditures. In addition, the presence of minority groups has a negative impact on education expenditures.

Grob and Wolter (2007) analyze the role of demographic factors on determining education spending levels in Swiss cantons for the period from 1990 to 2002. Their main finding is that the share of the elderly population has a significant negative impact on public education spending. Their second finding is related to inelastic response of education spending to changes in the school-age population. This means that total education spending adjusts slowly to the change in the number of students.

Bischoff and Prasetyia (2019) analyze the factors that drive primary and secondary education spending in Indonesian districts between 2005 and 2012. They use a set of socio-economic, political and geographic variables to explain total and per student education expenditures. Their main finding is that landlocked municipalities and municipalities with low enrollment rates spend less on education and fiscal capacity of municipalities, and that the number of school age children positively contribute to determining the level of education spending. More importantly, their findings support the presence of economies of scale in the provision of education services in Indonesia: the share of educational expenditures is lower in districts with a large share population living in of urban areas.

Our study contributes the third group of literature which focuses on the determinants of education spending at the subnational levels. However, we have also benefited from model specifications in the second group of studies, and we include economic, social and demographic variables into our model.

By focusing on provincial level of public education expenditure, we aim to fill a gap in the literature, as there are no studies in the literature focusing on the determinants of provincial public education expenditures in Türkiye. Provincial administrations play an important role in administering public education system in Türkiye. In addition, they play an important role in efforts to increase primary and secondary school student enrollment rate, especially for girls.

Method

Data and description of variables

This paper analyzes the determinants of public education spending at the provincial level with a balanced data set of 81 Turkish provinces for the period of 2008-2021. The reason why our analysis covers this time period is the availability of data as there has been a change in the national system of compulsory education.⁷ Table 1 presents the definition of variables in our analysis and their expected sign.

As the previous section on the literature review demonstrates there is a multitude of variables used by researchers in analyzing the determinants of public education expenditures. These determinants can be broadly classified as economic, social and demographic factors. In our analysis we will use variables that correspond to these factors. However, we would like to disaggregate these variables into primary and education levels. In Türkiye, there are three levels of formal public education: primary (grades 1 to 8), secondary education (grade 9 to12) and higher education (tertiary level of education).⁸ Since financing of higher education is very different from the financing of primary and secondary education, we focus on the latter.

Our dependent variable is per capita total primary and secondary public education spending at the provincial level (TOTEDU). Following guidance from Mullahy and Norton (2022) about models with dependent variables that are non-negative and have large numbers (such as wages, spending, and income) we converted our dependent variable into its natural log form to reduce the numerical values of large magnitude. Therefore, we reduced the range of values for the dependent variable while preserving the differences (Mullahy & Norton, 2022).

The line graphs below in Figure 1 present visual representation of variation of the education expenditures (TOTEDU) over time for each Turkish province. They show that there is a wide variation in the levels of per capita total education spending within a province over the study period as well as across 81 provinces.

⁷ With recent changes, the education service delivery in Türkiye is now governed by a national system of compulsory education which lasts 12 years. Compulsory education has two components. Primary education covers the education and teaching directed to children between the ages of 6–14. Secondary education includes all of the general, vocational and technical education which covers the education of children between 15 and 18 for four years after primary education.

⁸ Our data classification and methodology are based on Turkish Statistical Institute, 2023 National Education Statistics. More information about the analytical framework, concepts, definition, classifications, scope of the data, accounting conventions, characteristics of basic data sources, compilation practices and revisions of National Education Statistics can be obtained from the Turkish Statistical Institute (TURKSTAT, 2024a).

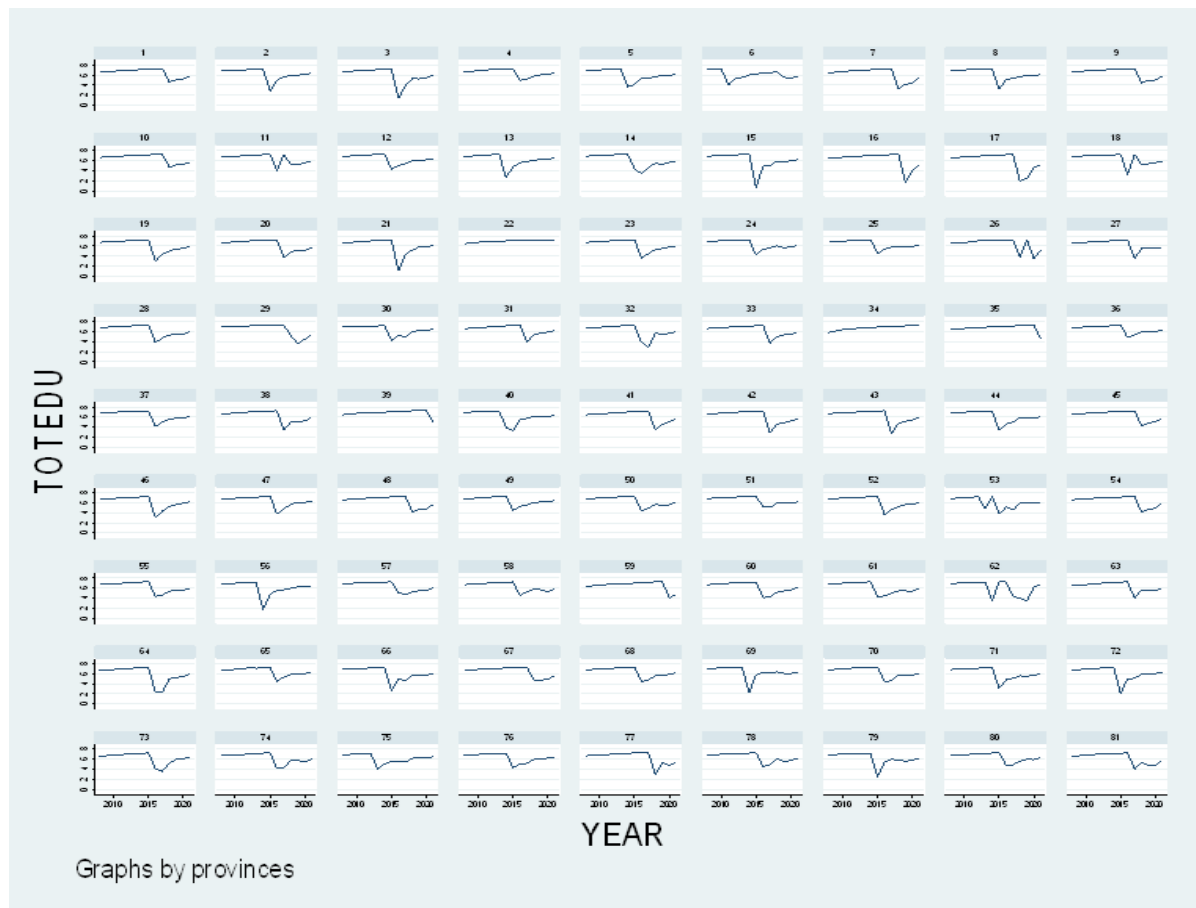


Figure 1. Line Graphs of Education Expenditures across 81 Provinces between 2008-2021

Our independent variables include:

- Economic variable:** In order to capture the economic composition of provinces, we include an agriculture variable (AGR) that represents the share of the agriculture sector in total gross provincial product. Tholkes and Sederberg (1990) argue that the share of agriculture sector is an important determinant for analyzing economies of scale in the provision of public education. We expect that the AGR variable will have a positive sign as agriculture is expected to have a positive impact on education spending through two channels. First, the share of the agriculture sector is an indication of rural-urban dichotomy in a province. Provinces with higher share of agriculture sector in their gross provincial product tend to be more rural than urban localities. Rural localities invariably have more remote villages. Therefore, in more rural provinces, the need for providing education services in more remote locations is expected to increase per capita education spending. A corollary expectation is that there is a presence of economies of scale in the provision of education services in Turkey. A positive sign for AGR is an indication of economies of scale (Tholkes & Sederberg, 1990).
- Social variables:** For social variables, we use student-teacher ratio and enrollment rate. Student teacher ratio is used by others, such as Nord (1983), and is expected to have a negative sign because as the average class size increases the average cost of education should decrease (Monk & Haller, 1986). In terms of enrollment rate, we expect a positive sign since the increase in enrollment would necessitate both capital and recurrent expenditures. In our model we have estimated student-teacher ratio separately for primary (STRP) and secondary (STRS) education. Similarly, we include separate enrollment rate for primary (ENRP) and secondary (ENRS) education. These variables are widely used in the literature (Fernandez & Rogerson, 1997; Grob & Wolter, 2007; Imana, 2017).

- *Demographic variables:* In order to understand the impact of demographics, we include student population density variable into our model. A demographic variable, such as population density, is widely used in the literature (McMahon, 1970; Nord, 1983; Shapiro, 1962); however, we followed the Fernandez and Rogerson (1997) model of estimating per student value. The variable is calculated by dividing the geographic area of a province by the number of primary school students (SPDP) and secondary school students (SPDS). This variable represents student population density per square kilometer and is expected to have a negative sign. That is, the increase in the student population density, which means an increase in the number of students, should help reduce per capita education spending.

Table 1. Definition of variables and expected sign

Variables	Definition	Measurement	Expected sign	Data source
Dependent Variable				
TOTEDU	Provincial primary and secondary public education expenditure per capita is calculated by dividing total provincial public education expenditure by mid-year population estimation of province	Turkish Lira (TRY)		Republic of Türkiye Ministry of Treasury and Finance Provincial Public Education Expenditures are available in at https://en.hmb.gov.tr/
Independent Variables				
AGR	Share of agriculture sector in gross provincial product	Percentage share	+	Turkish Statistical Institute www.tuik.gov.tr
STRP	Student-teacher ratio (primary)	Ratio	-	Turkish Statistical Institute and Ministry of National Education (Ministry of National Education [MoNE], 2024)
ENRP	Enrollment rate (primary)	Ratio	+	Turkish Statistical Institute and Ministry of National Education
STRS	Student-teacher ratio (secondary)	Ratio	-	Turkish Statistical Institute and Ministry of National Education
ENRS	Enrollment rate (secondary)	Ratio	+	Turkish Statistical Institute and Ministry of National Education
SPDP	Student population density (primary) (geographic area divided by primary student population)	Ratio	-	Turkish Statistical Institute and Ministry of National Education
SPDS	Student population density (secondary) (geographic area divided by secondary student population)	Ratio	-	Turkish Statistical Institute and Ministry of National Education

Econometric Model Specification and Hypothesis

In this study, we employ balanced panel data analysis—one of the most popular econometric methods. In economics, panel data analysis is widely used to study the behavior of various micro and macroeconomic variables (Arellano & Bond, 1991). Panel data contains more information, variability, and efficiency than pure time series or cross-sectional data. The advantages of panel data compared with cross-sectional data and time series data are summarized as follows (Hübler, 2005):

- i. A large number of observations gives more informative data with less multicollinearity and more degrees of freedom as well as a higher efficiency of econometric estimates.
- ii. Panel data allow researchers to control for unobserved heterogeneity, which is a major shortcoming of strictly time series and cross-sectional data.
- iii. Panel data analysis improves the possibilities of evaluating the effects of policy interventions and determining under which conditions the effects can be interpreted as causal effects.
- iv. Panel data can minimize estimation biases that may arise from aggregating groups into a single time series.

This method helps us to study cross sectional and time series data at the same time. In a balanced panel, the number of time periods T is the same for all individuals i. Our balanced panel model specification for per capita total education expenditure is illustrated as the functional form as follows:

$$\ln(TOTEDU_{it}) = \theta + \beta_1 * AGR_{it} + \beta_2 * STRP_{it} + \beta_3 * ENRP_{it} + \beta_4 * STRS_{it} + \beta_5 * ENRS_{it} + \beta_6 * SPDP_{it} + \beta_7 * SPDS_{it} + \varepsilon_{it}$$

where i refers to provinces (i= 1,.....81) and t indicates time (t=2008,.....2021), θ is fixed effects constant and ε is the random error term varying across both cross section and time. Given our dependent variable of total education spending, we have the following independent variables (see Table 1):

We investigate the following three hypotheses using variables described in Table 1:⁹

Hypothesis 1: There is a significant relationship between AGR and TOTEDU.

H0: There is no significant relationship between AGR and TOTEDU.

Hypothesis 2: There is a significant relationship between student-teacher ratio (STRP & STRS) and enrollment rate (ENRP & ENRS) and TOTEDU.

H0: There is no significant relationship between STR and ENR and TOTEDU.

Hypothesis 3: There is a significant relationship between student population density (SPDP & SPDS) and TOTEDU.

H0: There is no significant relationship between SPD and TOTEDU.

Steps of the Methodology

The findings of the empirical studies in the literature on the determinants of the education spending are notoriously sensitive to basic robustness checks. In this study we use a balanced panel data set with a large cross-section dimension and a small number of time periods, therefore N (81) > T (14). Given N > T, we have employed a step-by-step approach to select the best estimator for our model:

- i. Cross Sectional Dependency: First, cross sectional dependency is analyzed to decide whether to use first- or second-generation unit root test.
- ii. Panel Unit Root Tests: Second, the stationarity of series is investigated with the panel unit root tests.
- iii. Model Selection: Third, we estimate the model by using Pooled Ordinary Least Square (POLS), Fixed Effects (FE) panel, and Random Effects (RE) panel estimators to conduct cross tests to select the most reliable estimator among the three options.
- iv. Diagnostic Tests: Last, based on the results of the third stage, we employ the most reliable estimator for the model and conduct diagnostic tests for the estimation results.

⁹ In our analysis, we used STATA-16 software.

The methodological process of this study is presented in Figure 2. It summarizes each step of the methodology used in the study:

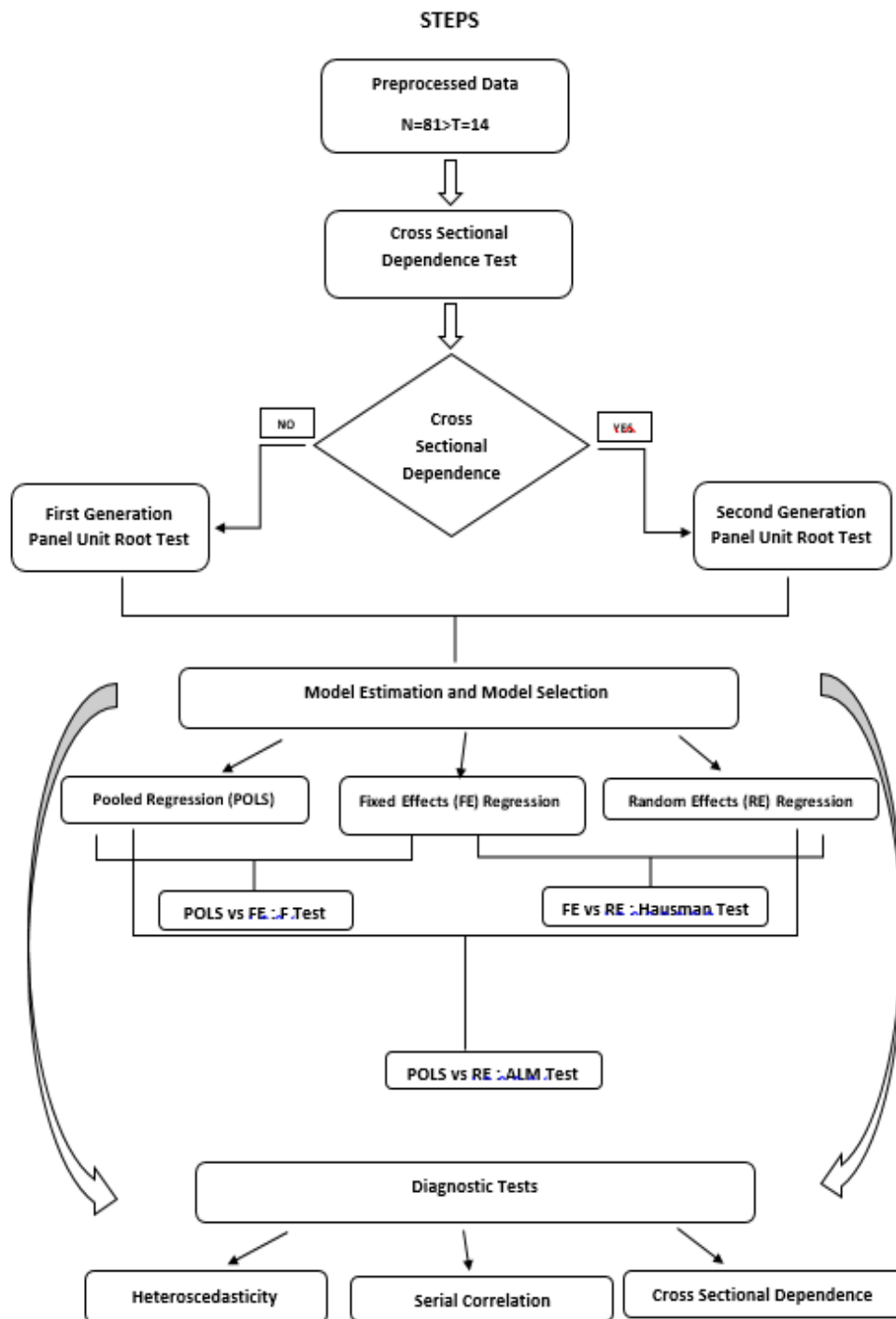


Figure 2. Flowchart of the Methodological Process of the Study

Cross Sectional Dependency

It is essential that all the study variables are checked for possible cross-sectional dependency before executing the panel unit root tests. Pesaran (2006) points out that ignoring cross-sectional dependency leads to inconsistent and upward-biased estimation. To verify the cross-sectional dependency among the provinces, this study applies Pesaran's (2004) Cross Sectionally Dependency (CD) test because in our dataset N is larger than T . The results of the CD test are presented in Table 2.

Table 2. Results of Cross Sectionally Dependency

Variable	CD Test Statistics	p-value	Decision
TOTEDU	73.56*	0.000	cross-sectional dependence
AGR	103.61*	0.000	cross-sectional dependence
STRP	188.81*	0.000	cross-sectional dependence
ENRP	125.80*	0.000	cross-sectional dependence
STRS	97.39*	0.000	cross-sectional dependence
ENRS	180.94*	0.000	cross-sectional dependence
SPDP	72.87*	0.000	cross-sectional dependence
SPDS	161.59*	0.000	cross-sectional dependence

Notes: (i) The null hypothesis of no cross-sectional dependence; (ii) $CD = \sqrt{\frac{2T}{N(N-1)}} \left(\sum_{i=1}^{N-1} \sum_{k=i+1}^N \hat{\rho}_{ik} \right)$ where T is the time interval, N is the number of cross-section units, and $\hat{\rho}_{ik}$ is the pair-wise correlation between cross-sections.; (iii)* illustrates 1% statistical significance.

The CD test results presented in Table 2 indicate that the null hypothesis of “no cross-sectional dependence” is rejected at 1 percent statistical significance level for all variables. Therefore, the presence of cross-sectional dependence in all variables requires us to conduct a second-generation unit root test.

Panel Unit Root Tests

Conducting unit root tests is important to avoid spurious regression results. However, when cross-sectional dependence is present in a panel dataset, the first-generation panel unit root tests become invalid. In case of cross-section dependency, second generation unit root tests should be used to test whether the series are stationary. To test whether each of the variables in a study contains a panel unit root, the cross-sectional Pesaran and Shin (CIPS) unit root test developed by Pesaran (2007). The CIPS panel unit-root test accounts for the dependence that may exist across different units in the panel. More importantly, CIPS can be applied in cases where $N > T$, which is the case in this study.

The null hypothesis of CIPS is that all the time series are non-stationary and the alternative hypothesis of CIPS is that all the time series are stationary processes. Table 3 reports the results of the CIPS test. In the table, the unit root statistics are reported for both constant and constant & trend.

Table 3. The Results of the CIPS Test

Variables	Level		First Differences	
	Constant	Constant&Trend	Constant	Constant&Trend
TOTEDU	-3.968*	-3.978*	-4.445*	-4.400*
AGR	-2.546*	-2.986*	-4.160*	-4.147*
STRP	-2.736*	-4.198*	-5.316*	-5.345*
ENRP	-2.990*	-2.861*	-3.917*	-4.327*
STRS	-2.559*	-2.566*	-3.522*	-3.934*
ENRS	-2.963*	-3.519*	-4.712*	-4.682*
SPDP	-1.513	-1.992	-2.986*	-3.479*
SPDS	-1.632	-2.332	-3.145*	-3.156*

Notes: (i) The null hypothesis indicates that the series is homogeneous non-stationary.; (ii) * illustrates 1% statistical significance.; (iii) Test Statistics: $CIPS(N, T) = N^{-1} \sum_{i=1}^N t_i(N, T) = \frac{\sum_{i=1}^N CADF_i}{N}$ where $t_i(N, T)$ is the cross-sectionally augmented Dickey- Fuller test statistic for the i th cross section unit in the CADF regression

Table 3 shows that the null hypothesis of non-stationary is rejected for all the variables in both constant and constant & trend models except SPDP and SPDS. This implies that the series for all variables except SPDP and SPDS are stationary in their levels or integrated of order zero, $I(0)$. Hence, the panel models will be estimated at the level of series in the analysis for these variables. However, variables SPDP and SPDS are found as $I(1)$. Thus, we include non-stationary variables SPDP and SPDS with their first differences into the model to avoid spurious regression results.

Model Selection

The study estimates the POLS, FE and RE panel models, then applies cross tests and compares the models in order to find the most appropriate one. POLS method of estimation presents results under the principal statement that there is no difference among the data matrices of the cross-sectional dimension.

Table 4. Cross Tests of Model Specification

Model Specification			
Cross tests	Test Statistics		Decision of null hypothesis
POLS vs FE	F	1.81 (0.000)	Rejected
POLS vs RE	ALM	17.24 (0.000)	Rejected
FE vs RE	Hausman	242.30 (0.000)	Rejected

Note: p-values are shown in parentheses.

In order to select between the fixed-effects model and POLS model, we conducted an F test. The null hypothesis is that all the constants are the homogenous and therefore the POLS model is applicable. In Table 4, the results of the F-statistics (p-value = 0.000) recommends FE panel model over the POLS model.

The Adjusted Lagrange multiplier test (ALM) has been used to select the better model between the POLS and RE panel models. The null hypothesis is that the variance of the random effect is zero, and the POLS model is appropriate against the alternative hypothesis that the variance of the random effect is larger than zero and should instead use random effects models. According to the result of the ALM test (p-value = 0.000) the null hypothesis is rejected; that means the random effects model is more appropriate over POLS. ALM test provides the evidence of significant differences across countries; therefore, we decided to drop the POLS model among the options.

When it comes to RE versus FE estimators, the Hausman (1978) test allows choosing between the RE panel model and the FE panel model. The null hypothesis is that the difference in coefficients is not systematic. In Table 4, the result of Hausman's test (p-value=0.000) indicates that the fixed-effects model is superior to the random-effect model. The fixed-effects model allows for different constants for each group.

Findings

Our step-by-step diagnostic approach indicate that the fixed-effects model is more reliable than the other two options. The advantage of using the fixed effects estimator is that it is consistent even when the estimators are correlated with the individual effects. The fixed-effects model captures all effects which are specific to particular individual provinces and do not vary over time.

Before interpreting of the results in Table 5, we want to discuss the results of the diagnostic tests presented at the end of the table. We first start with heteroscedasticity, which can cause standard error estimates to be biased and lead to incorrect interpretation of regression results. A modified Wald test statistic for groupwise heteroscedasticity in fixed effects models is used to detect if we have heteroskedasticity in the data (Greene, 2000). For both models, the modified Wald test statistic values led us reject the null hypothesis (363.67 for Model I and 361.64 for Model II), indicating presence of heteroscedasticity (Greene, 2003).

Second, we tested for serial correlation. The correlation of the error term for each cross-sectional unit with the error term in the following period is called serial correlation (Bhargava et al., 1982). To detect the presence of serial correlation in the dataset, we used the Durbin-Watson test and Baltagi-Wu (1999) Locally Best Invariant (LBI) tests. The test statistics of the Durbin-Watson test, and the LBI test are 1.5621 and 1.6161 respectively for Model I and 1.5624 and 1.6157 respectively for Model II. Since the serial correlation is present if the test statistics are lower than 2, our results suggest the presence of serial correlation.

Last, we tested for cross-sectional dependence—an indication of correlation in disturbance terms across various panels. The Pesaran (2004) test is used to check whether there is a cross-sectional dependency problem in the models under the null hypothesis of no cross-sectional dependence. Since the Pesaran test statistic for both models were significant at the 1 percent level, we conclude that cross-sectional dependence is present in the data.

Overall, the diagnostic results show that our initial fixed effects model suffers from serial correlation, heteroscedasticity, and cross-sectional dependence. Thus, we re-estimated both models with robust standard errors. The last two columns in Table 5 presents standard and robust standard errors. The coefficient values presented in table are estimated with robust standard errors against serial correlation, heteroscedasticity, and cross-sectional dependence.

Table 5. Estimation of Fixed-Effects Panel Models and Diagnostics Tests

Variables	MODEL I			MODEL II		
	Coefficient	Standard error	Robust standard error	Coefficient	Standard error	Robust standard error
AGR	0.0012*	0.0002	0.0002	0.0012*	0.0002	0.0002
STRP	0.0164*	0.0064	0.0051	0.0165*	0.0064	0.0051
ENRP	0.0015*	0.0002	0.0003	0.0015*	0.0002	0.0003
STRS	-0.0053	0.0080	0.0122	-	-	-
ENRS	-0.0011*	0.0001	0.0004	-0.0011*	0.0001	0.0003
DSPDP	0.0042***	0.0024	0.0024	0.0045***	0.0023	0.0024
DSPDS	-0.0079*	0.0011	0.0009	-0.0078*	0.0011	0.0009
Constant	5.1143*	0.3251	0.5209	5.0694*	0.3180	0.4796
F test	46.28*		86.91*	53.94*		99.55*
R ²	0.2513			0.2510		
Diagnostic Tests						
Heteroscedasticity	Modified Wald	363.67		361.64		
	Test	(0.000)		(0.000)		
Serial Correlation	Durbin-Watson	1.5621		1.5624		
	Baltagi-Wu LBI	1.6161		1.6157		
Cross Sectional	Pesaran	19.075		19.122		
Dependence		(0.000)		(0.000)		

Notes: (i)*, **, *** illustrates 1% ,5% and 10% statistical significance, respectively.; (ii) p-values are shown in parentheses.; (iii) D specifies the first difference of the variable.; (iv) Dependent variable is TOTEDU.

After estimation of fixed effects panel model, an added-variable plot used to control for the influence of individual effects as well as other covariates on the partial correlation of independent variables and education expenditures (TOTEDU). The plot creates a matrix of added-variable plots of all the independent variables and shows the partial correlation between one independent variable and the dependent variable from a multivariate panel regression (Gallup, 2020). The estimation results are presented in Table 5 and Figure 3 according to our model specification in the method section. In the first estimation we include all of the variables listed in Table 1. All variables are statistically significant at 1 percent level except the first difference of student population density for primary education (DSPDP) and student-teacher ratio for secondary education (STRS). Although DSPDP is significant at 10 percent level, which is an acceptable level, STRS is not statistically significant in any acceptable level. Therefore, we re-estimated the same model by dropping STRS. Figure 3 includes the added-variable plots for Model II. The added-variable plot provides a graphical representation of the relationship between independent variable and TOTEDU when other variables are also included in the model.

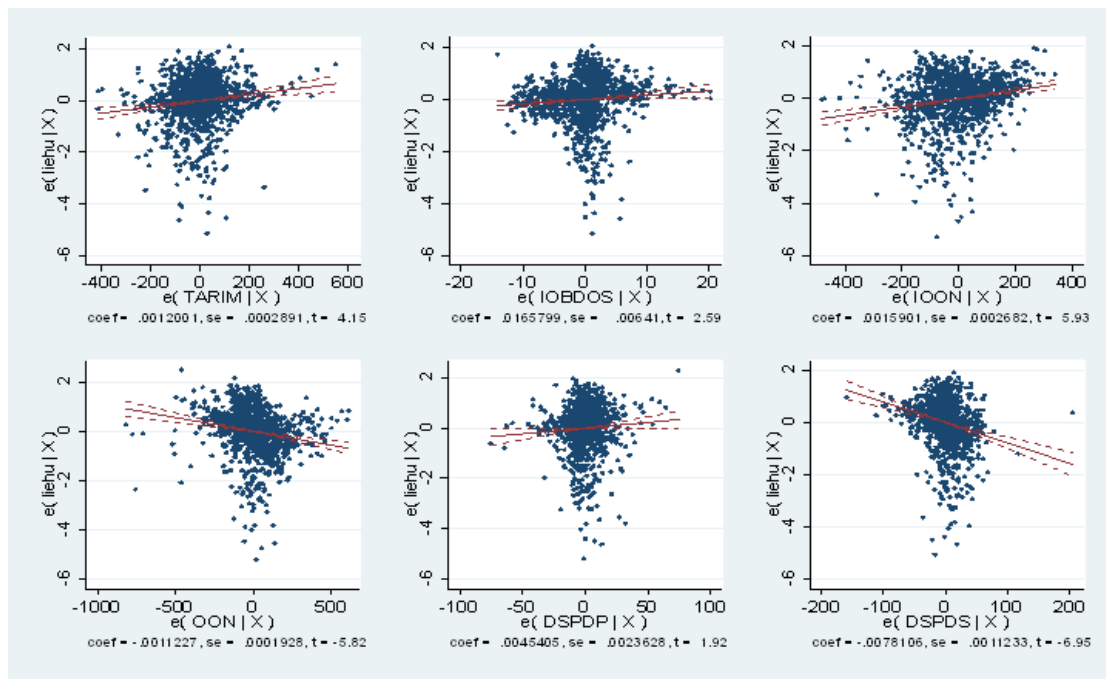


Figure 3. The Added-Variable Plot

The results of the second model in Table 5 and Figure 3 show us that all variables are statistically significant at the 1 percent level except DSPDP (at the 10%). Therefore:

We accept hypothesis 1: there is a statistically significant relationship between the share of agriculture sector in the gross provincial product and total per capita primary and secondary expenditures of provinces. The share of agriculture sector has statistically significant and positive effect on per capita total provincial primary and secondary education expenditures. Specifically, for each one-unit increase in the share of the agriculture sector, education expenditures go up by 0.12 percent. This is a sign of economies of scale in the provision of education services at the provincial level in Türkiye. Our finding is consistent with the findings of Tholkes and Sederberg (1990). As discussed above, the share of agriculture sector is an indication of rural nature of a province in which there are inherent inefficiencies. The provinces with substantial level of agricultural economic activity are spending more on primary and secondary education than other provinces.

In terms of hypothesis 2, our estimations present mix results. At the primary education level, we found a statistically significant relationship between student-teacher ratio (STRP) and enrollment rate (ENRP) and total per capita education expenditures in Türkiye, similar to the findings of Castles (1989) and Nord (1983). The increase in student-teacher ratio (STRP) and enrollment rate (ENRP) will lead to an increase in the per capita total education expenditures (TOTEDU). As for the secondary education, the increase in student-teacher ratio (STRS) and enrollment rate (ENRS) negatively influence the per capita total education expenditures (TOTEDU). However, student-teacher ratio for the secondary education (STRS) is not statistically significant at an acceptable level, whereas the variable for enrollment rate for the secondary education (ENRS) has statistically significant and negative effect on the dependent variable (TOTEDU) at 1 percent significance level. The coefficient of ENRS indicates that TOTEDU increases 0.01 percent overtime, when ENRS increases by one unit. Since the variable on STRS is not statistically significant, we dropped from the model and re-estimated the model. As presented in Modell II column of Table 5, the dropping of STRS from the model had no impact on the values and statistical significance levels of other variables.

As for the last hypothesis, we accept that there is a statistically significant relationship between student population density and total per capita primary and secondary expenditures of provinces.

However, the sign of variables for primary and secondary education is in opposite direction. Student population density for primary education (SPDP) has a positive impact on the dependent variable (TOTEDU) at the 10 percent significance level. Whereas population density for secondary education (SPDS) is negatively related with the dependent variable (TOTEDU) at the 1 percent significance level.

Discussion, Conclusion, Suggestions

In development economics, the middle-income trap refers to the state that a country finds it difficult to develop further and attain high-income status (Gill et al., 2007). Overcoming the middle-income trap has long been perceived as an important socio-economic issue as it is directly linked to the level of human capital of a country. Investing in education to power innovation and to improve human capital quality has been the most effective way to tackle the middle-income trap (Hara, 2021).

Türkiye was classified as an "upper-middle-income country" by the World Bank in 2007. After 2001, Türkiye maintained steady economic growth by embarking on economic reforms to attract foreign direct investments. Until 2020 Türkiye vigorously developed foreign trade sector while controlling inflation rate. However, Türkiye's economic development has stalled since 2020 signaling middle-income trap. According to the World Bank, Türkiye's gross domestic product (GDP) fell from \$939 billion in 2014 to \$720 billion in 2020. Lately, the persistent high inflation rate, high unemployment rate and high debt started to stoke the fears of middle-income trap.

For Türkiye, investing in education to improve human capital quality is the only way to escape the middle-income trap as the composition of the country's economy is inching towards producing high value-added products such as electric vehicles, drones, and appliances. Therefore, improving the efficiency of public education expenditures is not only about budget discipline and fiscal space issue, but also about achieving higher economic growth rate to escape the middle-income trap. In this context, analyzing public education expenditures helps policy makers to identify ways to increase efficiency and effectiveness in the use of budgetary resources.

Our analysis shows that the share of agriculture sector, student-teacher ratio, enrollment rate, and student population density are important determinants of public education expenditures at the provincial level in Türkiye. Given our findings, there are some implications that should be noted here as the suggestion to the policymakers on how to improve the determination of the total education expenditures in order to respond the needs of the people:

First, in determining per student formula for the allocation of budgetary resources, it is important to take economic composition of provinces into account. It seems it is more costly to provide education services in more rural provinces. Our finding is similar to the one Almadin et al. (2022) found for the Philippines. Their findings suggest that urbanization does not increase the cost of education services. Although our findings suggest that there are diseconomies of scale in the provision of education service in rural areas of Türkiye, it is important to conduct additional research to understand the dynamics of economies of scale. There is a need to understand the drivers of the increase in the cost of education service delivery in rural provinces: is it transportation cost, capital expenditure cost or student dispersion? How does cost affect the attainment of certain level of educational quality?

Second, student-teacher ratio and enrollment rate play an important role, but in different directions for the primary and secondary education. Student-teacher ratio and enrollment rate are important variables in explaining the determinants of public education expenditures in the literature (Nord, 1983). However, in Türkiye, they have differential impact on primary and secondary education expenditures. The fact that the expenditures continue to rise with the increase in the student-teacher ratio and enrollment rate for primary education is a sign that elementary schools are operating beyond the optimal size. It is important for policymakers to investigate whether elementary schools are overcrowded in Türkiye. We do not observe the same phenomenon in secondary education. The student-teacher ratio for secondary education has no statistically significant impact on education expenditures. However, enrollment rate has a highly significant negative impact. This suggests that

there has been an overinvestment in the secondary education service delivery and there is room to improve enrollment rates. The decrease in the marginal cost per an additional student suggests undercrowding of secondary schools.

There are several factors which might explain the observed differences in primary and secondary education. The primary and secondary level education are made compulsory in different times with different processes. Primary education has been compulsory since the early years of the republic with a school investment campaign especially in rural areas. Many of the primary school assets constructed in this period exhausted their economic life and there is a need for additional investments. In terms of timeline, primary education had been five years for a long time, and additional three years were added in 1997. Whereas secondary education has been made compulsory very recently—starting in 2012-2013 academic year—and enrollment rate for secondary education has always been lower than primary education. In this context, it is important to design policies to improve girls' participation in secondary education as anecdotal evidence suggests that families are reluctant to let girls to continue their education after the primary level, especially in rural areas. Lastly, the choice of private schools is more prevalent at the secondary education level compared to primary education which creates a situation of relative substitution of public education expenditures.

Third, the results for the student population density are consistent with the results of other studies (Bischoff & Prasetyia, 2019; Grob & Wolter, 2007). There is a statistically significant positive effect of student population density in primary education. This is consistent with the earlier observations on the potential suboptimal school size at the primary education level. More importantly, the statistically significant negative impact of student population density for secondary education is yet another sign that there is a room for improving enrollment rates in secondary education.

Our three findings—the role of economic composition of subnational levels, the importance of student teacher ratio and enrollment rate, and impact of student population density—present lessons for large and diverse developing countries stuck in the middle-income trap such as Brazil, Argentina, Colombia and others. They should consider the role of these factors in boosting the efficacy of education expenditures at the subnational level in tackling with the middle-income trap problem.

However, our analysis is not without shortcomings. An important missing variable in our analysis is information about internal and external migration patterns. The lack of available data on various immigration patterns prevents us analyzing the impact of population variability caused by internal and external migration. In terms of internal migration during the study period of 2008-2021, there has been an increased intra-provincial migration activity rather than inter-provincial migration. In many provinces, there has been an increased migration from rural to urban areas of provinces, mainly due to security reasons in the southeastern provinces. Furthermore, the enactment of the 2012 Metropolitan Municipalities Law complicated the picture in the highly urbanized provinces. As the law extended the urban definition to the whole geographical territory of 30 provinces, the Turkish statistical agency changed the urban/rural definitions. For external migration, there are no reliable numbers in terms of provincial level immigrants from Syria and other countries.

In concluding we would like to make suggestions to both academic and policy-making communities for Türkiye to avoid middle-income trap. The academic community can provide technical inputs to better policy making by investigating the components of the cost of education service provision and optimal size of classrooms in primary education. A better understanding of the drivers of the cost in rural areas and the determination of optimal classroom size will inform policy choices. As far as the policy makers are concerned, our findings suggest that the current formula of funding education spending needs to be revised. The findings of academic community should inform policy makers about the allocation of education spending across rural and urban provinces, deciding student-teacher ratios and promoting enrollment rate.

References

- Acar, E. Ö., Cilasun, S. M., & Günalp, B. (2016). *An analysis of education expenditures in Turkey by income groups* (Working Paper No. 991). The Economic Research Forum (ERF). <https://erf.org.eg/app/uploads/2016/04/991.pdf>
- Acar, E. Ö., Günalp, B., & Cilasun, S. M. (2016). An empirical analysis of household education expenditures in Turkey. *International Journal of Educational Development*, 51, 23-35. <https://doi.org/10.1016/j.ijedudev.2016.03.007>
- Almadin, H., Antiporda, J. M. Q., & Suin, K. A. S. (2022). An empirical analysis on the determinants of public education expenditure in the Philippines. *Journal of Economics Finance and Accounting Studies*, 4(1), 505-518. <https://doi.org/10.32996/jefas.2022.4.1.38>
- Arellano, M., & Bond, S. (1991). Tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*, 58(2), 277-297. <https://doi.org/10.2307/2297968>
- Baltagi, B., & Wu, P. (1999). Unequally spaced panel data regressions with AR(1) disturbances. *Econometric Theory*, 15(6), 814-823. <https://doi.org/10.1017/S0266466699156020>
- Bayar, A. A., & Bengi, Y. İ. (2016). Determinants of household education expenditures: Do poor spend less on education?. *Topics in Middle Eastern and North African Economies*, 18(1), 83-111. <https://ecommons.luc.edu/meea/224/>
- Bhargava, A., Franzini, L., & Narendranathan, W. (1982). Serial correlation and the fixed effects model. *Review of Economic Studies*, 49(4), 533-549. <https://doi.org/10.2307/2297285>
- Bischoff, I., & Prasetyia, F. (2019). Determinants of local public expenditures on education: Empirical evidence for Indonesian districts between 2005 and 2012. *International Journal of Education Economics and Development*, 10(2), 115-147. <https://doi.org/10.1504/IJEED.2019.10018476>
- Busemeyer, M. R. (2007). Determinants of public education spending in 21 OECD democracies, 1980-2001. *Journal of European Public Policy*, 14(4), 582-610. <https://doi.org/10.1080/13501760701314417>
- Castles, F. G. (1989). Explaining public education expenditure in OECD nations. *European Journal of Political Research*, 17(4), 431-448. <https://doi.org/10.1111/j.1475-6765.1989.tb00202.x>
- Chakrabarti, A., & Joglekar, R. (2006). Determinants of expenditure on education an empirical analysis using state level data. *Economic and Political Weekly*, 41(15), 1465-1472. <https://www.jstor.org/stable/4418088?seq=1>
- Cristobal, J. P., Cordero, M. A., & Manapat, Carlos L. (2022). Analysis of the determinants of public education expenditures in the philippines. *Journal of Economics, Finance and Accounting Studies*, 4(2), 276-291. <https://doi.org/10.32996/jefas.2022.4.2.22>
- Dragomirescu-Gaina, C. (2015). An empirical inquiry into the determinants of public education spending in Europe. *IZA Journal of European Labor Studies*, 25(4), 1-24. <https://doi.org/10.1186/s40174-015-0049-7>
- Fernandez, R., & Rogerson, R. (1997). *The determinants of public education expenditures: Evidence from the states, 1950-1990* (Working Paper No. 5995). National Bureau of Economic Research (NBER). <https://doi.org/10.3386/w5995>
- Gallup, J. L. (2020). Added-variable plots for panel-data estimation. *Stata Journal*, 20(1), 30-50. <https://doi.org/10.1177/1536867X20909689>
- Gill, I., Kharas, H., Bhattasali, D., Brahmbhatt, M., Datt, G., Haddad, M., Mountfield, E., Tatucu, R., & Vostroknutova, E. (2007). *An East Asian renaissance: Ideas for economic growth*. World Bank. https://www.researchgate.net/publication/242615637_An_East_Asian_Renaissance_Ideas_for_Economic_Growth
- Greene, W. H. (2000). *Econometric analysis* (4th ed.). Prentice Hall.
- Greene, W. H. (2003). *Econometric analysis* (5th ed.). Prentice Hall.

- Grob, U., & Wolter, S. C. (2007). Demographic change and public education spending: A conflict between young and old?. *Education Economics*, 15(3), 277-292. <https://doi.org/10.1080/09645290701273467>
- Hara, M. (2021). *Educational factors predicting middle-income trap and international competitiveness index in Southeast Asia* [Doctoral dissertation, Walden University]. <https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=11769&context=dissertations>
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*, 46(6), 1251-1271. <https://doi.org/10.2307/1913827>
- Hirsch, W. Z. (1960). Determinants of public education expenditures. *National Tax Journal*, 13(1), 29-40. <https://doi.org/10.1086/NTJ41790789>
- Hübler, O. (2005). *Panel data econometrics: Modelling and estimation* (Working Paper No. 319). Hannover University, Faculty of Economics and Management. https://diskussionspapiere.wiwi.uni-hannover.de/pdf_bib/dp-319.pdf
- Imam, P. A., & Temple, J. R. W. (2024). *At the threshold: The increasing relevance of the middle-income trap* (Working Paper No. 24/91). IMF. <https://doi.org/10.5089/9798400274855.001>
- Imana, D. K. (2017). The determinants of public education expenditures: an empirical analysis of changing patterns and growth of public expenditure on education in Kenya. *Journal of Public Administration and Governance*, 7(4), 1-23. <https://doi.org/10.5296/jpag.v7i4.11972>
- Jabbar, N. A., & Selvaratnam, D. P. (2017). Analysis of the determinants of education expenditures in Malaysia. *Journal of International Business Economics and Entrepreneurship*, 2(1), 1-10. https://www.researchgate.net/publication/353684336_Analysis_of_the_Determinants_of_Education_Expenditures_in_Malaysia
- McMahon, W. W. (1970). An economic analysis of major determinants of expenditures on public education. *The Review of Economics and Statistics*, 52(3), 242-252. <https://doi.org/10.2307/1926292>
- Ministry of National Education. (2024). *Official statistics*. <https://sgb.meb.gov.tr/www/resmi-istatistikler/icerik/64>
- Ministry of Treasury and Finance. (2024). *Official statistics*. <https://en.hmb.gov.tr>
- Monk, D. H., & Haller, E. J. (1986). *Organizational alternatives for small schools*. State University of New York.
- Mullahy, J., & Norton E. (2022). *Why transform Y? A critical assessment of dependent-variable transformations in regression models for skewed and sometimes-zero outcomes* (Working Paper No. 30735). NBER. <https://doi.org/10.3386/w30735>
- Nord, S. (1983). On the determinants of public education expenditures. *The American Economist*, 27(2), 21-28. <https://journals.sagepub.com/doi/10.1177/056943458302700204>
- Pesaran, M. H. (2004). *General diagnostic tests for cross section dependence in panels* (Working Paper No. 1229). CESifo Network. <https://doi.org/10.2139/ssrn.572504>
- Pesaran, M. H. (2006) Estimation and inference in large heterogeneous panels with a multifactor error structure. *Econometrica*, 74(4), 967-1012. <https://doi.org/10.1111/j.1468-0262.2006.00692.x>
- Pesaran, M. H. (2007). A simple panel unit root test in the presence of cross-section dependence. *Journal of Applied Econometrics*, 22(2), 265-312. <https://doi.org/10.1002/jae.951>
- Porteba, J. M. (1997). Demographic structure and the political economy of public education. *Journal of Policy Analysis and Management*, 16(1), 48-66. [https://doi.org/10.1002/\(SICI\)1520-6688\(199724\)16:1<48::AID-PAM3>3.0.CO;2-I](https://doi.org/10.1002/(SICI)1520-6688(199724)16:1<48::AID-PAM3>3.0.CO;2-I)
- Sagarik, D. (2013). An analysis of the determinants of education expenditure in Thailand. *Asian Politics & Policy*, 5(2), 227-248. <https://doi.org/10.1111/aspp.12027>
- Shapiro, S. (1962). Socio-economic determinants of expenditures for education: Southern and other states compared. *Comparative Education Review*, 6(2), 160-166. <https://doi.org/10.1086/444928>

- Sheikh, R. I. (2019). Analysis of the determinants of public education expenditures in Bangladesh. *Journal of Public Administration and Governance*, 9(3), 151-178. <https://doi.org/10.5296/jpag.v9i3.15419>
- Strawczynski, M., & Zeira, J. (2003). What determines education expenditure in Israel?. *Isreal Economic Review*, 1, 11-33. https://www.researchgate.net/publication/252061999_What_determines_education_expenditure_in_Israel
- Tholkes, R. J., & Sederberg, C. H. (1990). Economies of scale and rural school. *Research in Rural Education* 7(1), 9-15. https://jrre.psu.edu/sites/default/files/2019-08/7-1_8.pdf
- Turkish Statistical Institute. (2024a). *National education statistics*. <https://data.tuik.gov.tr/Bulten/Index?p=National-Education-Statistics-2023-53444>
- Turkish Statistical Institute. (2024b). *National population statistics*. <https://data.tuik.gov.tr/Kategori/GetKategori?p=Population-and-Demography-109>
- Verbina, I., & Chowdhury, A. (2004). What determines public education expenditures in Russia?. *The Economics of Transition*, 12(3), 489-508. <https://onlinelibrary.wiley.com/doi/full/10.1111/j.0967-0750.2004.00190.x>
- Yilmaz, S., & Guner, A. (2013). Local government discretion and accountability in Turkey. *Public Administration and Development*, 33(2), 125-142. <https://doi.org/10.1002/pad.1646>
- Yun, W. S., & Yusoff, R. (2018). The determinants of public education expenditure in Malaysia. *Jurnal Ekonomi Malaysia*, 52(2), 1-17. <https://doi.org/10.17576/JEM-2018-5202-9>

