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Impact of Instruction with Concept Cartoons on Primary School 3rd Graders' Speaking Skills

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Abstract

Aim of the study was to reveal impact of instruction with concept cartoons on primary school 3rd graders' speaking skills. The study group consisted of 58 third grade students in two different classrooms of a state school in Ankara. The two classes were appointed as experimental and control groups. Quasi-experimental model with pretest-posttest control group was employed for the research. Speaking instruction was given through concept cartoons in the experimental group, and through current instructional program in the control group. The students in the experimental group were given 25 hours of speaking instruction in total - 5 hours a week. "Speaking Skill Assessment Rubric" was employed as the data collection tool. Shapiro-Wilk, Mann Whitney U, Independent Samples t-Test and Covariance Analysis were used to analyze the data obtained from Speaking Skill Assessment Rubric. As a result of the study, it was revealed that speaking skills of the students in the experimental group, who were taught through use of concept cartoons, were better in the components of "language and expression", "content" and "presentation".

Keywords

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Introduction

The human being needs to live in society and to communicate with others by his nature. Communication is conveying feelings, thoughts and ideas to the recipient briefly and clearly, and enabling mutual understanding (Temizyürek, Erdem, & Temizkan, 2007). Within this scope, individuals primarily need to explain their ideas to the others, to interact with them and to speak. Speaking which is exchange of feelings and ideas is a part of our daily life. People mostly communicate through speaking,

Speaking is an innate talent; however, conditions of rhetoric are taught at school through a planned and systematic educational process, and the skill of effective speaking can be turned into behavior by children only through educational process (Şahin, 2015). According to Özbay (2005) general goal of speaking classes in educational institutions is to help students gain skill of expressing their feelings, thoughts, dreams and wills abiding by linguistic rules and effectively. In line with this purpose, it is the teachers' responsibility to provide students to have an effective speaking skill and to express

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themselves precisely. Teachers should prepare various in-class and out-of-class activities to help students gain permanent speaking skill.

Using visual materials as a teaching technique for children by integrating them with concepts is a way of providing children with speaking skill. Cartoons, which are visual materials, provide opportunity to readers to consider and discuss on them as they are interesting. Cartoon is an art used in different areas such as newspapers, television, magazines, posters and course books (Özer, 1985). They have important effects on learning and teaching especially with regards to their psychological effects as they are concepts in which humor is used effectively (Uğurel & Moralı, 2006). Turkish Ministry of National Education pointed existence of this art with the statement of "…can perceive the message given in cartoons" in the section of visual reading in Primary Schools Turkish Curriculum in 2004 (Özer, 2007). In recent years, concept cartoons have been applied in educational settings, too. Concept cartoons were first developed in science education by Keogh and Naylor in 1992 to satisfy the need of teachers participating in in-service courses to find new ways (as cited in Van der Mark, 2011). Naylor and Keogh (2000) described concept cartoons as cartoon type drawings revealing a series of views about science in daily life. Concept cartoons are sometimes confused with cartoons; however, they do not contain humor (Ocak, Islak, & Ocak, 2015). The main thing distinguishing concept cartoons from cartoons is that they do not contain humorous elements and they do not apply exaggeration (Güler, 2010). Concept cartoon is a type of cartoon in which parts such as discussion, brainstorming or research stand out. A classification regarding this is illustrated in Figure 1.

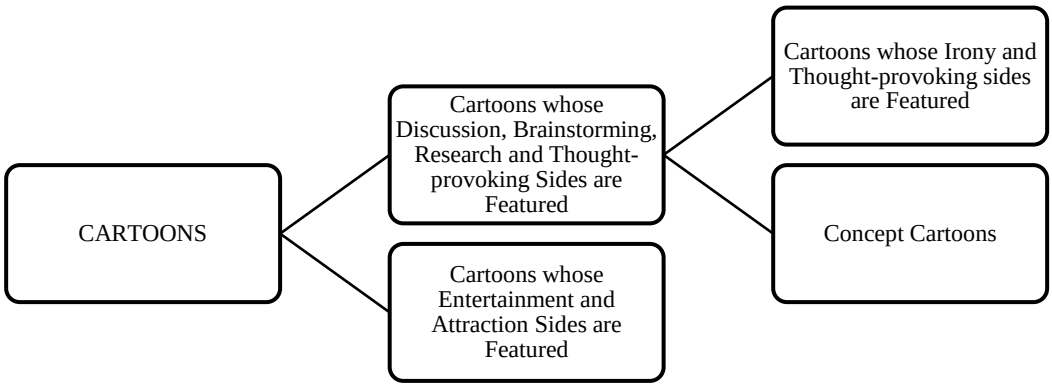

Figure 1. A classification in which concept cartoons are included (Durmaz, 2007).

Concept cartoons are visual tools that tell a scientific event with the help of cartoons and provide different points of view (Coll, 2005; Keogh & Naylor, 1999; Naylor, Downing, & Keogh, 2001; Stephenson & Warwick, 2002). They are preferred more than other cartoons in the field of education as they are more useful, effective and purposeful (Güler, Çakmak, & Kavak, 2013). Concept cartoons have been the subject of several educational studies based on the benefits they provide for the learning process. The vast majority of these were interventional studies about the use of them in education. When the studies related to the topic were generally investigated, it was seen that they were used especially in the fields such as mathematics, science, history and social sciences, and the studies were carried out with middle school students. Based on the studies conducted, it can be suggested that concept cartoons are effective in determining and eliminating misconceptions (Atılğanlar, 2014; Demir, 2008; Yıldız, 2008), promoting students' positive attitudes towards the course (Arıkurt, 2014; Meriç, 2014), increasing students' achievement and motivation (Arıkurt, 2014; İnel, 2012; Sayın, 2015), creating classroom discussion environment and encouraging students to actively participate in class.

Dabell (2008) stated that concept cartoons can reveal students' current knowledge and thoughts, help them dilate upon by questioning and elaborating their thoughts, provide them alternative perspectives, be used as a stimulant to create a discussion environment, find out and eliminate students'

misconceptions, lead them to investigate, increase their participation and motivation and help them summarize or repeat a topic. Concept cartoons can help students discuss their ideas, express their views, make suggestions and question their peers. Şengül and Aydın (2013) expressed that students can express their thoughts easily in classroom settings and restructure their opinions by comparing them in pluralist perspective with the help of concept cartoons. In addition, Chin and Teou (2009) indicated that students are encouraged to express an individual perspective through concept cartoons as they would attribute their wrong ideas to the characters in the cartoons. There are also some studies suggesting that concept cartoons are useful instruments for assessing reactions of the students (Alerby, 2003; Kinchin, 2004; McDonough, 2002; Sexton, 2010). On the other hand, it was claimed that concept cartoons helped students work in a group compatibly and interact with each other (Steininger, 2014). Similarly, it was stated that concept cartoons were useful instruments in creation of learning environments in which students can use their discussion and questioning skills (Naylor, Keogh, & Downing, 2007). In addition to these, there are some studies suggesting that concept cartoons increase students' motivation in learning process (Dalacosta, Kamariotaki-Paparrigopoulou, Palyvos, & Spyrellis, 2009; Keogh, Naylor, & Wilson, 1998; Long & Marson, 2003; Lou, Shih, Tseng, Diez, & Tsai, 2010; Naylor & Keogh, 1999).

According to learning and motivation theories, images and symbols which are lively, different and attractive can find a place in mind in a faster way, and they can easily be called back (Korucu, 2009). As concept cartoons are directly connected with sense of sight, they attract students' attention and provide opportunity to discuss different ideas (Göksu, 2014). Therefore, concept cartoons can be used in educational environments to start a discussion about a concept, a case or an action, and to lead students into questioning (Evsen, 2013). Other reasons to use concept cartoons in learning environments are that they can start in-class discussions in a short time, so that teachers do not make extra effort to start setting of discussion, and that all students, regardless of their ideas, can use the same research model (Kabapınar, 2005). Additionally, it was stated that concept cartoons can be used for questioning students' ideas and for explaining their misconceptions (Kusumaningrum, Ashadi, & Indriyanti, 2018). On the other hand, concept cartoons are considerably effective materials for encouraging student participation in classes and justification of their ideas (Morris, Merritt, Fairclough, Birrell, & Howitt, 2007). Concept cartoons' including visual elements related to the subject to be taught attract students' attention and help them learn with fun (Balım, İnel, & Evrekli, 2008). In addition, there have been several studies conducted suggesting that concept cartoons are useful in expressing students' ideas in instructional process (Dweck, 2000; Yin, Bing, & Zakariya, 2016).

It was seen that despite the benefits of concept cartoons in educational settings, they were used in a few studies in the field of Turkish language education, which aims to develop basic language skills such as reading, writing, listening and speaking (Akkaya, 2011; Dönmez, 2013; Soy, 2019). Although some theoretical studies on the use of concept cartoons as a strategy especially for speaking skill, which has been neglected, have been carried out (Doğan, 2009; Kurudayıoğlu, 2003; Özbay, 2005), no interventional study in which concept cartoons are centralized has been found. In the literature, Koç Akran and Kocaman (2018) examined the impact of learning-teaching model based on cartoons on preschool children's speaking and listening skills. Demirci (2019), on the other hand, included concept cartoons in certain phases of his study which was on the speaking skill. Similarly, Kuru (2013a, 2013b) included speaking activities on concept cartoons to help students gain the skill of fluent speaking. Özbay (2005), in his theoretical study entitled "Techniques for Developing Speaking Skill in Mother Tongue Education", mentioned that speaking on pictures, graphs or cartoons are types of activities to promote speaking skill. Kurudayıoğlu (2003) explained activities to improve speaking skill as follows; making a sample speech, asking questions, memory, excursion, telling fairy tales, stories and a script read in the classroom, guessing, classifying, associating, categorizing exercises, dreaming, discussing, verbal chorus, dramatization, graphics, speaking on pictures or cartoons, describing and analyzing, brainstorming, using sounds correctly and effectively, tongue twisters and game activities. Finally,

Doğan (2009) suggested concept cartoons as activities to be used by class teachers and Turkish language teachers for improving speaking skill.

Although speaking is regarded as an important skill by teachers, speaking-oriented activities are limited in practice. Implementing speaking activities with concept cartoons, which are substantial teaching tools, are supposed to be impelling in helping students express their opinions and participate in classes actively. Concept cartoons' being multifunctional is an indicator that they can be used for speaking skill. When theoretical studies including activities to improve speaking skill and the benefits that concept cartoons provide students in the process of learnings-teaching were considered, the questions of how they would affect students' speaking skills and whether they would be an alternative tool of speaking activity in classroom practices for teachers triggered the current study. In this context, impact of concept cartoons on speaking skill was needed to be revealed empirically in this study. Determining the impact of concept cartoons on speaking skill empirically can be a guide for both theoretical and practical studies.

This study is significant since it focused on speaking skill, which is the basis of mother tongue education. Furthermore, the fact that it can contribute to the content of any curative instructional programs makes it significant. Finally, it can contribute to the subject area as it provides a sample practice for effective use of concept cartoons in primary school 3rd grade Turkish language classes.

Aim of the Study

Aim of this study was to investigate possible impact of instruction with concept cartoons on primary school third graders' speaking skills. In the study, the following questions were answered in accordance with this general aim:

1. Are there any statistically significant differences between posttest scores of the experimental group on whom instruction was carried out with concept cartoons and of the control group on whom current instructional model was applied in improving their speaking skills in primary school 3rd grade Turkish language course?
2. Are there any statistically significant differences between posttest scores of the experimental and control group students received in "language and expression", "content" and "presentation" sub-components of Speaking Skill Assessment Rubric?

Method

Model of the Research

"Quasi-experimental model with pretest-posttest control group" was employed in the research. This model provides great statistical potential to the researcher about testing the effect of intervention on dependent variable, and helps interpretation of findings obtained within the context of cause and effect (Büyüköztürk, 2011). Therefore, quasi-experimental design was employed in the current study. According to the pretest results, two classes were randomly assigned as experimental and control groups from classes with similar properties. While the lessons were held with concept cartoons in the experimental group, no intervention was performed in the control group.

Study Group

Study group of the research was composed through convenient sampling method in accordance with aim of the research. Convenient sampling is described as a suitable method to fasten and ease research when there are problems related to time and expense, and it is a sampling method in which people close and convenient to the researcher are selected (Yıldırım & Şimşek, 2013).

The study group of this research included students studying in two different classrooms (3/A - 3/C) in a primary school located in Ankara. Total number of students was 58, 30 of whom were in the experimental group and 28 of whom were in the control group. Distribution of the students in both groups by gender was shown in Table 1.

Table 1. Distribution of the Students in the Experimental and Control Groups by Gender

Gender	Experimental group		Control group		Total	
	N	%	*N*	%	*N*	%
Female	14	46.7	12	42.9	26	44.9
Male	16	53.3	16	57.1	32	55.1
Total	30	100	28	100	58	100

The pretest was conducted to merely two classes – instead of all classes in the school – in accordance with the suggestions of the school principal and the teachers of 3rd grade students since it is difficult and time-consuming to gauge speaking skill. The students' speeches on the questions prepared for the pretest were graded using Speaking Skill Assessment Rubric. Independent samples t-test was employed to determine if there were any significant differences between the classes by their pretest scores. It was found that there were not any significant differences between the classes (p=.696), and the classroom of 3/A was assigned as the experimental group and 3/C as the control group by random sampling.

Special attention was paid to equality of secondary variables as well as equality of the experimental and control groups in terms of speaking skill. With this purpose, class teachers and school administrators were asked for information regarding academic achievement of the students in the study group, all processes of the research were conducted in similar conditions in both groups, it was paid attention to have participants with similar characteristics in both groups in terms of socio-economical background, gender, class size, etc., the number of participants was kept high in case of unexpected non-participation and special attention was paid to ensure neutral data collection process in both groups. In addition, in order to minimize effect of the pretest, the participants were asked different speaking questions in the posttest lest they get familiar with the speaking questions included in the pretest.

Data Collection Tools

The data of the research were collected through "Speaking Skill Assessment Rubric (SSAR), pretest-posttest questions which helped the students speak on and concept cartoons. SSAR and concept cartoons were developed by the researcher, and the development process was presented below.

Development of Speaking Skill Assessment Rubric

Speaking Skill Assessment Rubric was developed by the researchers in order to gauge speaking skills of the students before and after the intervention. The items in the rubric were created by benefitting from the Turkish Language Curriculum[1] (Ministry of National Education [MoNE], 2015) 3rd grade verbal communication learning outcomes and related literature. The items included in the rubric were classified into three components – "language and expression", "content" and "presentation" – by taking the learning outcomes related to speaking into consideration.

Firstly, speaking skill observation and assessment forms in literature (Aykaç, 2011; Bulut, 2015; Erdem, 2012; Gürhan, 2013; Kartallıoğlu, 2015; Maden, 2010; Orhan, 2010; Öztürk, 1997; Sallabaş, 2011; Sargın, 2006; Temizkan & Atasoy, 2016; Yüceer, 2014) developed to gauge speaking skill were studied before developing the current rubric. Measuring instruments on speaking skill vary in terms of both naming and sub-components of the skill. While names such as verbal communication observation form,

[1] This study was based on 2015 Turkish Language Curriculum since it was carried out in the spring term of 2016-2017 academic year.

speaking skill observation form and speaking skill rubric are preferred in naming, names such as speaking order, language awareness and psychological condition of the speaker (Sargın, 2006); organization, content, general situation of presentation, language use, speaking aesthetic, body language and material support (Akyol, 2016) are used as sub-components. Sub-components of the rubric used in this study were developed by regarding "Speaking Skill Assessment Form" in Turkish Language course curriculum of MoNE (2006) and "Peer Evaluation Form for Speaking Skill" developed by Temizkan (2009).

The draft rubric consisted of 30 items. Five academic staff members working at Bartın University Faculty of Education on Turkish language education were asked to express their opinions via an expert review form on the draft rubric for ensuring content validity of the draft. 2 items were removed in accordance with the field experts' views as they were not appropriate for any sub-components and they were overlapping. Furthermore, 4 items were revised and re-directed to the experts since they were not clear and smooth, they were incomplete or under a different sub-component. Content validity index was found as 1 by benefitting from Lawshe's (1975) technique. Content validity of the research was regarded as high since it was over 0.99 (Lawshe, 1975). In order to provide reliability of the rubric, pre-intervention speeches of 58 students in the experimental and control groups were graded by two researchers simultaneously. Then, Cronbach's alpha reliability coefficient for the scores was calculated, and it was found as .835. This coefficient indicated that Speaking Skill Assessment Rubric, developed by the researchers, was reliable.

Thus, the rubric was finalized with 8 items in "language and expression", 8 items in "content" and 12 items in "presentation" (28 items in total) according to the experts' views. The lowest and the highest scores to be received from the rubric were 28 and 140, respectively.

The SSAR was scored as follows:
Completely Unobserved: 1 point
Unobserved: 2 points
Partially Observed: 3 points
Observed: 4 points
Completely Observed: 5 points

Pretest-Posttest Questions

Topics on which students would speak were needed to assess speaking skills of the students in the experimental and control groups; 30 pretest and 34 posttest questions were prepared benefitting from the primary school 3rd grade Turkish language course guidebook for teachers.

During the intervention, it was observed that the students had difficulty in speaking on 6 of the pretest questions; therefore, the students were asked to pick another question and to speak on it. These 6 questions were removed in the posttest, and 10 new questions were added (34 posttest questions in total). The new added questions were the ones included in the theme of "Health and Environment" on which speaking activities were held with concept cartoons. 4 of the 10 new added questions were about a narrative text (Ece's Joy), 3 of them were about an informative text (Health), 2 of them were about a poem (Our Environment) and 1 of them was about a listening text (The Little Blue Fish is in Aquarium).

Some sample pretest – posttest questions used in the research were as follows:

- ✓ Why should we obey the rules at school? What happens if we don't?
- ✓ Why do we love and respect our teachers?
- ✓ What job would you like to do in the future? Why?
- ✓ What do you regard while using your personal items?

Creation of Concept Cartoons

The concept cartoons were prepared in accordance with the theme of "Health and Environment" in 3rd grade Turkish language course. The concept cartoons were created by the researchers by using ToonDoo tool based on contents of the reading texts "Ece's Joy", "Our Environment", "Health", "Cleaning" and "The Little Blue Fish is in Aquarium" which were included in the theme. The concept cartoons were holistically created by the researchers because of reasons such as not being able to reach the cartoons compatible with the texts in the themes and the cartoons' not being compatible with each other and the texts.

The concept cartoons were created by the researchers in accordance with the views of 1 academic staff members at Bartın University Faculty of Education – Turkish Language department and 2 class teachers for their suitability for the students' levels and 2 academic staff members at Bartın University Faculty of Education – Computer Education and Instructional Technologies department and 1 visual arts teacher for their visual suitability. The cartoons were revised in terms of suitability, content, consistency, choice of characters, size, color, etc. based on the views of the field experts. The students in the experimental group were given five hours of education per week using these concept cartoons during five weeks (25 hours in total).

34 concept cartoons were used during the study. Contents of the concept cartoons were created by benefitting from the following topics:

Health, animal love, healthy and balanced nutrition, personal hygiene (ear, hand and face, body, teeth), saving and embellishing environment, environmental cleaning, helping parents, seasonal clothes, playing sports, sleeping pattern, noise and visual pollution.

Two concept cartoons used in the study were given as an example in Figure 2.

Figure 2. Sample concept cartoons used in the study

Empirical Process

The intervention was carried out in three phases which were pretest, speaking activities with concept cartoons and feedbacks, and posttest.

The questions prepared for the pretest were put in a box, and the students were asked to pick one randomly. Each student talked about the question he/she had picked. When a student completed his/her speech, another student was asked to pick another question. Other students were required to listen to the speaker. The speeches were videotaped after necessary permissions had been obtained and assessed according to SSAR by the second researcher and a subject area expert. Two classes between which there were not any significant differences regarding their pretest achievement scores were assigned as experimental and control groups.

After the experimental and control group students had been assigned, the lessons were carried out using concept cartoons in the experimental group; however, there was no intervention in the control

group. The lessons were held by the second researcher under supervision of the class teacher in the experimental group while they were held by the class teachers based on Turkish Language Curriculum in the control group. The relevant class teacher was informed that lessons in the control group should be taught according to verbal communication learning outcomes and to speaking activities included in guidebook for teacher. The researcher attended a class session with the control group for observing the lesson. As a result of the observation, it was understood that speaking activities in the guidebook for teachers were used to warm up the students and to stimulate their prior knowledge before reading and to make evaluation after reading.

A sample implementation about teaching of lessons in the experimental group was presented in Table 2.

Table 2. A sample Lesson Plan Regarding Teaching of Lessons in the Experimental Group

PART I	
COURSE: Turkish Language	**GRADE:** 3
THEME: Health and Environment	**TIME ALLOCATION:** 40+40
LEARNING-TEACHING METHODS AND TECHNIQUES	Exposition, question-answer, discussion
INSTRUCTIONAL TOOLS AND MATERIALS	Coursebook, computer, projector, concept cartoons
PART II	
LEARNING OUTCOMES The students will be able to... T3.1.1. form sentences expressing their thoughts and feelings. T3.1.2. speak/discuss about a topic with peers and friends. T3.1.2.1. speak in an audible tone by making eye contact. T3.1.2.2. pronounce the words in speech accurately. T3.1.2.3. speak without getting off the topic and obeying the pre-defined rules. *Listening to others, using suitable way of salutation, not interrupting the speaker, waiting for the speaker to finish, asking to speak flow of speech, etc.* T3.1.4. speak in public.	
LEARNING-TEACHING PROCESS Before starting the implementation, the researcher asked the students to obey speaking rules such as stress, intonation, rhythm and pause, to pronounce the words accurately, not to use body language unnecessarily and to give illustrative and supportive examples for their speech. Then, the students were asked preparatory questions like "What plants do you grow in your house?" and "What type of plants do you see around you?" to motivate them for the lesson. Next, the keywords related to the topic – flower, grow, seedling – were written on the board in order to determine vocabulary knowledge of the students. Then, the cartoons in Figure 3 prepared for the text called "Ece's Joy" by the researchers were projected on the board. The students were asked to examine the cartoons for a while and to answer the following questions. • Do you think what can be the topic of the cartoons you see? • What activities would you want do with your family and friends under the tree if you were in the shoes of the people in the cartoons? • What are the benefits of trees in the nature to people? • What would you like to say to someone telling you that planting trees is a futile attempt? • What do you think happens if all plant species in the world are destroyed as a result of a disaster?	

Figure 3. Sample cartoons created for the text called "Ece's Joy"

Starting from the volunteers, the students were asked to speak about the cartoons. The students were guided by the researcher to make various descriptions during their speeches. Then, the lesson continued by projecting the other cartoons.

After all of the students had spoken on the cartoons, they were asked to read the text entitled "Ece's Joy" aloud and silently, respectively. The lessons continued with other texts and cartoons the same way after all the things necessary for the text were conducted.

The concept cartoons were benefitted for the purpose of revealing students' prior knowledge about the text, set an objective for reading and make guesses within the context of pre-reading activities. The students were enabled to discuss the perspectives revealed by the concept cartoons. The researcher guided these discussions. The students were provided to share their ideas and views with each other. They had the opportunity to interact and exchange ideas with their peers.

Data Analysis

The data were analyzed using SPSS-20.0 program. Firstly, Independent Samples t-test was used to test equivalence of the scores received from SSAR by the students in the experimental and control groups before the intervention. Then, it was analyzed whether the scores received from SSAR showed normal distribution or not. At the end of the empirical process, Analysis of Covariance (ANCOVA) and Mann-Whitney U Test were employed to test effectiveness of the empirical intervention.

Ethical Matters

For ethical matters, firstly necessary permission was obtained from Ankara Provincial Directorate for National Education. The school principal, the class teachers and the students in the classes of implementation were informed about implementation. Moreover, necessary permission for video-recordings was obtained. Finally, confidentiality of student and school information was provided.

Results

Before starting the analyses regarding the sub-problems of the research, missing values were investigated, but no missing values were found. Then, it was investigated whether the scores received from SSAR by the students in the experimental and control groups were distributed normally or not, and parametric or non-parametric statistical techniques were used based on the results. Shapiro-Wilk's test was used to test normality of the data. The normality test results indicated that pretest and posttest scores of the students in the experimental and control groups showed normal distribution (p>.05). Accordingly, the analyses of the students' pretest and posttest scores were carried out by using Analysis of Covariance (ANCOVA) – one of the parametric tests.

In order to investigate the research problem in more detail, the sub-components of SSAR, "language and expression", "content" and "presentation", were compared. As the first step of this

comparison, it was tested if the posttest scores received from sub-components of SSAR by the experimental and control groups were distributed normally. After the intervention, it was found that speaking scores received from "language and expression" sub-component were distributed normally in the control group while they were not distributed normally in the experimental group; speaking scores received from "content" sub-component were distributed normally in both groups, and speaking scores received from "presentation" sub-component were distributed normally in the experimental group while they were not distributed normally in the control group. According to the findings obtained, Analysis of Covariance was used for analyzing the "content" sub-component of SSAR as speaking scores in this sub-component were distributed normally; Mann-Whitney U Test was employed for analyzing the sub-components of "language and expression" and "presentation" as speaking scores in these sub-components were not distributed normally.

Results and Interpretations Related to the First Sub-Problem

Analysis of Covariance (ANCOVA) was employed to determine whether posttest scores of the students in the experimental and control groups were distributed normally when their pretest scores were adjusted for the first sub-problem, **"**Are there any statistically significant differences between posttest scores of the experimental group on whom instruction was carried out with concept cartoons and of the control group on whom current instructional model was applied in improving their speaking skills in primary school 3rd grade Turkish language course?". The results obtained were presented in Table 3.

Table 3. ANCOVA Results Regarding Posttest Speaking Scores of the Experimental and Control Groups

Source of Variance	***SS***	***df***	***MS***	***F***	***p***	**eta-square** η^2
Model	1.959	2	.979	12.438	.000*	.311
Pretest	.617	1	.617	7.838	.007*	.125
Group	**1.244**	**1**	**1.244**	**15.802**	**.000***	**.223**
Error	4.330	55	.079			
Total	732.626	58				

*p<.05

Table 3 indicated that there was a statistically significant difference between the adjusted posttest speaking skill mean scores of the experimental and control groups (F = 15.802, p = 0.00). In addition, it can be stated that the intervention in the groups had a high impact on speaking skill (η^2= 0.22). It was understood from this result that 22% of the variance in the posttests, when the pretests were adjusted, stemmed from instruction with concept cartoons. Bonferroni's multiple comparison test was employed to determine between which groups the difference existed, and the results were given in Table 4.

Table 4. Bonferroni's Pairwise Comparison Test Results Regarding Posttest Scores of the Experimental and Control Groups

Comparison	**Mean Difference**	***SE***	***p***	**Bonferroni's 95% Corrected CI**
EG and CG	.294	.074	.000*	.146, .441
CG and EG	-.294	.074	.000*	-.441, -.146

Note. EG = Experimental Group, CG = Control Group; *p<.05

According to Table 4, the students in the experimental group on whom instruction was carried out with concept cartoons ($\bar{X}$= 3.78) were more successful than the ones in the control group on whom current instructional model was applied ($\bar{X}$=3.49) (MD = .294, SE = .074, p = .00). As a consequent, it can be stated that speaking skills of the students in the experimental group were better than of the ones in the control group.

Results and Interpretations Related to the Second Sub-Problem

The existence of significant difference between posttest scores received in "language and expression" and "presentation" sub-components by the experimental and control group students was tested with Mann Whitney U-test, one of the non-parametric statistical methods, and the findings were presented in Table 5.

Table 5. Mann Whitney U Test Results of the Post-Implementation Scores Received from "Language and Expression" and "Presentation" Sub-components of the Scale by the Experimental and Control Groups

	Groups	N	Mean Rank	Sum of Ranks	U	*p*
Language and Expression	Experimental	30	35.33	1060.00	245.00	.006*
	Control	28	23.25	651.00		
Presentation	Experimental	30	36.28	1088.50	216.50	.001*
	Control	28	22.23	622.50		

*p<.05

It was seen in Table 5 that there was a significant difference between mean rank of the scores that the experimental group students received from the sub-components of "language and expression" and "presentation" and mean rank of the scores that the control group students received from the same sub-components, and the difference was in favor of the experimental group (p<.05). Thus, it can be claimed that the experimental group students with whom instruction was made with concept cartoons were more successful in "language and expression" and "presentation" sub-components of SSAR than the control group students.

Analysis of Covariance (ANCOVA) was employed to determine whether posttest scores of the students in the experimental and control groups were distributed normally when their pretest "content" sub-component scores were adjusted. The results related to the analysis were presented in Table 6.

Table 6. ANCOVA Results Regarding Posttest-Content Speaking Scores of the Experimental and Control Groups

Source of Variance	*SS*	*df*	*MS*	*F*	*p*	eta-square η^2
Model	2.748	2	1.374	6.295	.003*	.186
Pretest	1.711	1	1.711	7.840	.007*	.125
Group	**1.009**	**1**	**1.009**	**4.622**	**.036***	**.078**
Error	12.002	55	.218			
Total	776.906	58				

*p<.05

Table 6 indicated that there was a statistically significant difference between the posttest mean scores of the experimental and control groups adjusted for "content" sub-component pretest scores (F = 4.622, p = 0.03). In addition, it can be stated that the intervention in the groups had a low impact on speaking skill (η^2= 0.07). It was understood from this result that 0.7% of the variance in the posttests, when the pretests were adjusted, stemmed from instruction with concept cartoons. Bonferroni's multiple comparison test was employed to determine between which groups the difference existed, and the results were given in Table 7.

Table 7. Bonferroni's Pairwise Comparison Test Results Regarding Content-Posttest Scores of the Experimental and Control Groups

Comparison	Mean Difference	*SE*	*p*	Bonferroni's 95% Corrected CI
EG and CG	.264	.123	.036*	.018, .510
CG and EG	-.264	.123	.036*	-.510, -.018

Note. EG = Experimental Group, CG = Control Group; *p<.05

According to Table 7, the students in the experimental group on whom instruction was carried out with concept cartoons ($\bar{X}$= 3.92) were more successful than the ones in the control group on whom current instructional model was applied ($\bar{X}$=3.66) (MD = .264, SE = .123, p = .03). As a consequent, it can be stated that speaking skills of the students in the experimental group were better than of the ones in the control group in the sub-component of "Content".

Discussion, Conclusion and Suggestions

As a result of the study, it was found that instruction with concept cartoons improved speaking skills of the 3rd grade students. When SSAR scores of the students in the experimental group with whom instruction was carried out with concept cartoons and of the students in the control group on whom current instructional model was applied were compared, a significant difference was observed in favor of the experimental group. Thus, it can be stated that instruction with concept cartoons is effective on improving generally speaking skills of the students and specifically language and expression, content and presentation sub-components of this skill.

Various studies in the literature support this finding. Kuru (2013a) aimed at helping a 5th grade student who had been having the problem of speaking fluently gain fluent speaking skill by having various activities. One of the activities he used was an activity of speaking on concept cartoons. He concluded that activity of speaking on concept cartoons and other activities significantly developed speaking skill of the student having the problem of speaking fluently. Kuru (2013b) contained concept cartoons in another study that was conducted with 10 students having the problem of speaking fluently, and obtained similar results with his previous study. The researcher used an observation form to gauge the student's speaking skill, and sorted the observation items under the headings of "psychological factors, physical factors, factors related to speaking (grammar, spelling) and factors related to topic", affecting speaking. The headings of physical factors, factors related to speaking (grammar, spelling) and factors related to topic are related to the sub-components of our study, which are presentation, language and expression and content. The results obtained under these headings are similar to our research. The consistency between SSAR and sub-components of the rubric made the results of the research reliable.

Şeref and Yılmaz (2015) concluded in their study, which was about usability of concept cartoons as visual tools in improving Yemeni students' writing and speaking in Turkish language, that the students became successful in fictionalizing their writing, in creating a text, in choosing suitable words and in expressing what they see. Similarly, Demirci (2019) included concept cartoons in certain phases of his study named "Impact of 5E learning model on students' speaking skills and speaking anxieties. He made use of concept cartoons in the phases of engagement, exploration and evaluation of eight speaking activities compatible with 5E learnings model. The students were asked to speak by asking questions about the cartoons. As a result of that study, it was found that speaking activities conducted by using 5E learning model were effective in improving students' speaking skill, yet they were not effective in reducing their speaking anxieties. Koç Akran and Kocaman (2018) aimed at determining impact of learnings-teaching model based on cartoons on students' speaking and listening skills in their study. They concluded that the students could generate long sentences, ask questions about the cartoons, express their opinions in different ways, etc. following the implementation with learnings-teaching model based on cartoons. The researchers reported that learnings-teaching model based on cartoons helped the students look from different perspectives and suggest different ideas. Similar studies in the literature and the results of the current study have revealed that using concept cartoons with other activities both directly and indirectly can contribute to the development of speaking skill.

Özbay (2005) and Kurudayıoğlu (2003) stated in their theoretical studies that speaking activities on visuals can be used in speaking education, students can be asked to explain visuals appropriate for their levels, and so students' speaking skills can be developed. Uçgun (2007), on the other hand, made suggestions for the development of speaking skills in his study called "factors affecting speech education". The researcher stated that various pictures, photographs and cartoons are important for speaking education to develop speaking skill. The findings obtained from this empirical study supported theoretical studies and contributed to the literature.

Concept cartoons allowed students to share their thoughts and opinions with each other. On the other hand, they provided the students with an opportunity to interact with their peers and exchange ideas through discussions. Huang and Liu (2018), revealed that discussion-based concept cartoons encouraged students to speak and to express their opinions clearly. Similarly, Chen, Ku, and Ho (2009) claimed that concept cartoons improved discussion skills of the students. In another research, it was emphasized that concept cartoons helped students express their opinions easily (Keogh & Naylor, 1999). Additionally, Chin and Teou (2010) concluded that concept cartoons helped students express their opinions by benefitting from speeches, writings or visuals.

De Lange (2009) stated that concept cartoons can provide an accessible entry point for language learning and contribute to the development of students' language skills. In this context, Dönmez (2013) concluded in his research that instruction with concept cartoons was found more effective on improvement of reading comprehension and writing skills of the students when compared to the conventional method. This conclusion indicated that concept cartoons have positive effect not only on speaking skill, but also on reading comprehension and writing. In addition, many studies pointed out effectiveness of instruction with concept cartoons (Balım, Çeliker, Türkoğuz, Evrekli, & Ekici, 2015; Chen et al., 2009; Durmaz, 2007; Foley, Boylan, & McTearnan, 2011; Kabapınar, 2005; Koçoğlu, 2012; Rule & Auge, 2005; Tokcan & Alkan, 2013).

Concept cartoons increase students' achievement in several instructional areas as well as speaking skill. For instance, there are a large number of studies suggesting that instruction with concept cartoons in science and mathematics education is influential on students' achievement (Akamca & Hamurcu, 2009; Akdeniz & Atasoy, 2006; Atasayar, 2015; Atasoy & Ergin, 2017; Atılğanlar, 2014; Balım et al., 2008; Baysarı, 2007; Ceylan, 2015; Dabell, 2008; Davidson & Askew, 2012; Durmaz, 2007; Evsen, 2013; Gafoor & Shilna, 2013; Göksu, 2014; Güler, 2010; Güler et al., 2013; Kabapınar, 2005; Meriç, 2014; Ocak et al., 2015; Stephenson & Warwick, 2002; Taşlıdere, 2013; Taşkın, 2014; Uğurel & Moralı, 2006; Webb, Williams, & Meiring, 2008; Yavuz & Büyükekşi, 2011). It can be asserted that instruction with concept cartoons is effective because of the fact that instruction with concept cartoons is fun, they are instructive while entertaining, they encourage students to participate in the classes actively and they keep students' attention alive.

The studies investigated revealed that concept cartoons contribute positively to the students' learning in instructional process. In this context, using an instructional method assisted with concept cartoons to improve students' speaking skills, especially in Turkish language classes, can enable permanent learning. Teachers can motivate their shy students to speak by using concept cartoons to encourage them. Thus, students can take the opportunity of expressing themselves by speaking. This can affect their perceptions about the lesson as well. On the other hand, teachers can include prepared and unprepared speaking activities to provide whole classroom participation through concept cartoons. Concept cartoons can be used for gaining all skills about Turkish language lesson. Students' views can be asked while creating concept cartoons. Activities can be arranged by providing active student participation, and concept cartoons prepared by the students can be used as a course material, too. In addition, information meetings about preparation and implementation of concept cartoons can be organized for both teachers and teacher candidates.

In the present study, impact of instruction with concept cartoons on the students' speaking skills was investigated. Its impact on other basic language skills can also be investigated. In addition, effect of cartoons on students' motivation and attitude in Turkish language lessons can be investigated. On the other hand, effect of instruction with concept cartoons can be studied in other courses as well.

The Strengths and Limitations of the Research

It was found in the study that concept cartoons affected speaking skill positively. In this respect, it has contributed to the literature. The fact that speaking skill, which is difficult to be measured and whose field of study is narrower than other skills, and concept cartoons that have rarely been studied in Turkish classes were focused in this study, led its strength. Another strength of the study was that the concept cartoons used in the study were developed by the researchers peculiar to the subject area.

The study has some limitations apart from its strengths. The most remarkable limitations were that there was a lot of noise since the experimental group was crowded, and it was difficult to deal with the students one-to-one and to dominate over the class. On the other hand, all of the concept cartoons in this study were unwritten. Another limitation was that cartoons, which were written, designed as worksheets or posters were not used. Finally, that Turkish language lessons were not taught by the researchers in the control group may be regarded as a limitation.

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Appendix 1. Speaking Skill Assessment Rubric (SSAR)

Completely Unobserved (1), Unobserved (2), Partially Observed (3), Observed (4), Completely Observed (5)

No	A. LANGUAGE AND EXPRESSION	1	2	3	4	5
1.	Does he/she make sentences suitable for his/her levels while speaking?					
2.	Does he/she use an audible tone of voice?					
3.	Does he/she speak using standard Turkish (İstanbul Turkish)?					
4.	Does he/she use intonation and stress suitably?					
5.	Does he/she use appropriate addressing?					
6.	Does he/she obey the rules of courtesy?					
7.	Does he/she have difficulty in pronunciation of any words?					
8.	Does he/she speak clearly?					
	B. CONTENT					
9.	Does he/she reflect main idea of the topic?					
10.	Does he/she associate his/her speech with daily life?					
11.	Does he/she digress?					
12.	Does he/she make unnecessary word repetitions?					
13.	Does he/she explain topic with examples?					
14.	Does he/she use cause and effect relationship while speaking?					
15.	Does he/she tell the events chronologically (in a speaking plan)?					
16.	Does he/she make inferences about the topic?					
	C. PRESENTATION					
17.	Does he/she use gestures and facial expressions while speaking?					
18.	Does he/she speak easily in front of the class?					
19.	Does he/she make eye contact while speaking?					
20.	Does he/she speak in an appropriate tone of voice (a tone which can be followed by the listeners)?					
21.	Does he/she make unnecessary pausing?					
22.	Does he/she use silent pauses (um, uh, etc.) that prevent speaking fluency?					
23.	Does he/she make unnecessary gestures?					
24.	Does he/she get nervous while speaking?					
25.	Does he/she manage speaking time effectively?					
26.	Does he/she end his/her speaking with suitable expressions?					
27.	Does he/she have suitable speaking speed (a rate that can be followed by the listeners)?					
28.	Does he/she speak with a balanced breath control?					