Effect of Peer-Assisted and Learning Together Techniques on 6th Grade Students' Reading Comprehension Achievement and Attitudes towards Reading

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ABSTRACT

The research aims to examine the effect of *peer assisted learning* and *learning together* techniques on 6th grade female students' reading comprehension achievements and attitudes towards reading. The research employed a quasi-experimental model with pretest – post-test control group. Data collection tools of the research were Reading Attitude Scale, Reading Comprehension Achievement Test, Reading Habit Questionnaire, student interview forms and student journals. Results suggested that *peer assisted learning* affected 6th grade female students' reading comprehension achievement positively at a high level, *learning together* positively at a moderate level, but the current practices in Turkish course did not make a significant difference in reading comprehension achievement. Learning together and current practices were observed to be effective in ensuring the permanence of students' reading comprehension achievements, while *peer assisted learning* was not. No significant difference was found between the effects of techniques used in the research on the students' reading comprehension achievements or on the permanence of their reading comprehension achievements. No significant difference was found between the effects of *peer assisted learning*, *learning together* and *current practices* on students' attitudes towards reading; while a significant difference was found in the permanence of students' attitudes towards reading resulting from (against) learning together technique. The students expressed generally positive opinions on *peer assisted learning* and *learning together* techniques.

Key words: Peer Assisted Learning, Learning Together, Reading Comprehension, Reading Attitude

INTRODUCTION

Reading contributes to the social, psychological, and cognitive development of the individual. Individuals can develop creative, versatile, and critical thinking skills as well as empathy and communication through the act of reading. A fluent reader with reading comprehension skills can be successful at every stage of their lives. An individual with reading comprehension skills can establish healthy communicate with other members of the society and can easily solve the problems they encounter. Reading comprehension skills of students should be developed from the first years of their education life, and reading education and comprehension education should be integrated. Güneş (2014) argues that various information is taught to children and adolescents who attend formal and non-formal education in Turkey, but students cannot use this information in daily life due to the lack of comprehension education. International research supports the view that there is an inadequacy in comprehension education in Turkey. Ranking 40th out of 79 countries in PISA 2018, Turkey was below the Organization for Economic Co-operation and Development (OECD) average (Ministry

of National Education [MEB], 2019b). The pilot scheme "Turkish Language Test in Four Skills" conducted by MEB In 2019 on 7th grade students determined that the raw average score of the students was 10.63 (out of 20 points) and only 0.05% answered all the questions in the reading subtest correctly (MEB, 2020). One of the reasons why students in Turkey are not at the desired level in reading comprehension skills in national and international studies may be the limitation and inadequacy of the learning methods and techniques used. Ün-Açıkgöz (2008) states that it is necessary to use different learning methods in order to achieve sufficient and qualified learning in individuals.

Literature Review

Some age groups can be argued to be more important in the development of an individual's reading and reading comprehension skills. Aytaş (2005) states that intensity and superiority in reading are achieved in the 4th, 5th and 6th grades of primary education. The importance and attention given to the field of reading during these periods may positively

affect the reading skill and attitude of the individual towards reading in the following years. Kulaksızoğlu (2015) states that girls leave the late childhood stage at the age of 11-13 (12-14) and enter the early adolescence (puberty) stage of adolescence, which refers to middle school 5th, 6th and 7th grades. Peers influence the academic success of students during adolescence. According to Steinberg (2007), of two students with the same level of success, the probability of academic success of the one with friends who has academic success at school is higher than the other one with friends who are at a lower level of academic success. For this reason, peer support can be used in learning methods and techniques for middle school students.

Topping and Ehly (1998) state that cooperative learning is included in the education policy of the United States. No study has been found in the domestic literature on the use of *learning together* (LT) technique in reading comprehension education towards middle school students. *Peer learning* is used in many countries and is supported by the United Nations Educational, Scientific and Cultural Organization (UNESCO) (Blanch et al., 2012). In studies conducted abroad, it has been observed that students who receive peer support are better in reading comprehension than those who do not (Fuchs & Fuchs, 2005; Fuchs et al., 1999; Fuchs et al., 1997). In the literature review conducted, no domestic research has been found regarding the use of *peer-assisted learning* (PAL), which is one of the active learning techniques, in order to improve the reading comprehension skills and reading attitudes of middle school students in the country. For this reason, there has been a need to investigate the effect of *learning together* and peer assisted learning on the *comprehension* learning outcomes of *reading* field included in Turkish Course Curriculum (MEB, 2019b).

Reading comprehension

Reading comprehension skill facilitates the daily life of individuals. Examples of the use of reading comprehension in daily life include shares on social networks, e-mails, news on websites, etc. Tazebay (1995) states that there is a positive relationship between students' reading comprehension levels and their academic success. Since reading comprehension is a skill used in both academic and social life, the obstacles to reading comprehension should be taken under control and overcome, and the reading comprehension skills of an individual should be developed at a young age.

Learning methods that provide high level of success in every environment and situation for reading comprehension education may not be available because each learning method and technique has advantages or weaknesses compared to the others. In this context, it is necessary to try different learning methods and techniques in order to improve students' reading comprehension skills.

Attitude towards reading

Reading attitude expresses an individual's need, desire and attitude towards the act of reading. According to Alexander and Filler (1976), the attitude towards reading is all of the emotions that lead the individual to read or cause the individual to avoid reading. Peer support can be used to develop the cognitive and emotional domains of middle school students' reading attitudes. Children who love to read and read whenever they can positively influence their friends in terms of reading attitude. In this context, it may be useful to carry out reading education practices with the support of or together with peers during adolescence.

The use of learning together in reading education

LT groups are formed by bringing together lower, middle and upper-level students ranked by their academic success, socioeconomic levels, reading habits, etc. This diversity in student groups can benefit students in using reading and comprehension strategies. According to Harmer (2007), diversity in the level of success, skills, interests, etc. among students will bring a versatile perspective to the reading text. In addition, students, while working together, can have the opportunity to observe each other and learn to use reading comprehension strategies through modeling. Since students aim to increase both their own reading comprehension achievement and the reading achievement of their groupmates in LT process, students with high and moderate success can support other students.

Students can quickly get feedback from their peers while reading and follow their reading activities more carefully to give feedback to their peers. As Butler and Winne (1995) state, students who cannot give internal feedback can evaluate and make corrections by getting external feedback from their peers thanks to LT. The number of students participating in reading aloud activities may be higher than those in individual learning applied throughout the classroom or traditional techniques.

Use of peer assisted learning in reading education

While being used in reading education, PAL technique has been introduced some modifications in its application. Fuchs et al. (2001) added three activities three activities, namely *partner reading, paragraph shrinking, and prediction relay* to PAL in order to improve students' reading and reading comprehension skills. Palinscar and Brown (1984) state that this form of application is used more in informative texts, because the text should be reduced by being grouped into sections especially in the stages of paragraph shrinking and prediction relay. How partner reading, paragraph shrinking, and prediction relay activities follow each other in a loop is explained as follows.

In partner reading activity, first, the more successful reader then the less successful reader read the text aloud and correct each other's reading errors. After students complete their reading aloud, the lower-performing student retells the text through questions such as "What did you learn?" asked by the more successful student. Then, the *paragraph shrinking* activity begins, in which the most important question that needs to be answered is "What have we learned from the paragraph?". Student pairs write their answers on sheets of paper and simultaneously raise them up. If there is

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a pair with a wrong answer, the tutor tells them to try again, and if the pair's answer is still wrong, the tutor says, "Read the paragraph quietly and try again." In the *prediction relay* stage, the lower-performing student makes predictions on what will be told in the next part of the text. If the more successful student does not find his partner's prediction to be correct, they ask their partners to make another prediction, and the peer pair makes a common prediction. They read the relevant part of the text, and decide whether their prediction is correct. The activities in question continue in the same order until the end of the text (Fuchs et al., 2001). The peers assisting in the learning process guides their peers to understand and interpret the text correctly, and assumes a guiding role rather than a teacher.

Research Questions

The study aims to determine and compare the effects of *peer-assisted learning* and *learning together* techniques on 6th grade female students' *reading comprehension achievements* and *reading attitudes*, and to identify their views on these techniques. In this context, the research questions are listed below:

1. Is there a significant difference in the success levels of the 6th grade female students who practiced *peer assisted learning* technique according to the pre-post-retention applications of the Reading Comprehension Achievement Test?
2. Is there a significant difference in the success levels of the 6th grade female students who practiced *learning together* technique according to the pre-post-retention applications of the Reading Comprehension Achievement Test?
3. Is there a significant difference in the success levels of the 6th grade female students who applied *current practices* according to the pre-post-retention applications of the Reading Comprehension Achievement Test?
4. Is there a significant difference between the Reading Comprehension Achievement Test post-test scores of the 6th grades consisting of female students who practiced *peer-assisted learning*, *learning together* techniques and *current practices*?
5. Is there a significant difference between the Reading Comprehension Achievement Test permanence test scores of the 6th grades consisting of female students who practiced *peer-assisted learning*, *learning together* techniques and *current practices*?
6. Is there a significant difference in the attitudes towards reading of the 6th grade female students who practiced *peer-assisted learning* technique according to the pre-post-retention applications of the Reading Attitude Scale?
7. Is there a significant difference in the attitudes towards reading of the 6th grade female students who practiced *learning together* technique according to the pre-post-retention applications of the Reading Attitude Scale?
8. Is there a significant difference in the attitudes towards reading of the 6th grade female students who practiced current practices according to the pre-post-retention applications of the Reading Attitude Scale?

9. Is there a significant difference between the Reading Attitude Scale post-test scores of the 6th grades consisting of female students who practiced *peer-assisted learning, learning together* techniques and current practices?
10. Is there a significant difference between the Reading Attitude Scale post-test scores of the 6th grades consisting of female students who practiced peer-assisted learning, learning together techniques and current practices?
11. What are the opinions of the 6th grade female students who practiced the *peer-assisted learning* technique on the experimental procedure?
12. What are the opinions of the 6th grade female students who used the *learning together* technique on the experimental procedure?

METHOD

Quantitative and qualitative data collection tools were used in the study. Creswell (2017) states that the method is mixed in the studies where quantitative and qualitative data collection tools are used together. Nested mixed pattern allows for cumulative or separate collection of qualitative and quantitative data before, during and after the study. When quantitative and qualitative data are collected simultaneously, a data format plays a supporting role (Creswell & Plona-Clark, 2015). Quantitative data are supported by qualitative data in this study which is carried out according to the nested mixed pattern. Since it is difficult to equate the experimental and control groups in terms of control variables in the current school structure, a quasi-experimental design with pretest-posttest control group (unequalized control group model) was preferred in this study. As Cohen et al. (2000) state, researchers in social sciences mostly prefer the quasi-experimental model because not all the variables can be controlled.

Sample/Participants

Convenience sampling was used to determine the research group. The researcher teacher, working in a middle school in Trabzon province Akçaabat district, designated the 6th grade female students, who were taking Turkish classes from the researcher teacher, as the research group. In the 2018-2019 academic year, male and female students studied in separate classrooms at the research school. The researcher teacher decided to study on girls' classes as she taught these class branches consisting of female students. The research continued with a total of 74 female students: 24 in Experimental Group 1, 24 in Experimental Group 2, and 26 in Control Group.

Instruments

Reading Habits Questionnaire, Reading Comprehension Achievement Test and Reading Attitude Scale were used in the quantitative dimension of the research; and semi-structured student interview forms and student journals

were used in the qualitative dimension. The researcher, while preparing the "Reading Habits Questionnaire" to collect data on the reading habits of the research group, benefited from the studies in the literature (Ünal, 2012; Suna, 2006). During the development process of the achievement test, possible achievement tests were applied to the students studying in the same school as the study group at three different times. Items analyses were made, and the items with a discrimination index above 0.20 were included in the achievement test. The Reading Comprehension Achievement Test with an average difficulty of 0.58 include 25 items with 12 multiple choice, 5 limited answer, 2 matching, 1 short answer and grouping (true-false) items prepared based on three texts in informative, narrative and poetry forms.

As a result of the literature review conducted, *Attitude Towards Reading Scale*, which was developed by Susar-Kırmızı (2006) and has a Cronbach's Alpha value of 0.79, was used in the study with the permission of the researcher. The scale has 32 items, prepared with a five-point scale as "completely appropriate, quite appropriate, partially appropriate, slightly appropriate, not at all appropriate". The students wrote their journals in the notebooks given by the researcher teacher and delivered the diary notebooks to the researcher teacher again after the experimental procedures. The notebooks were kept by the researcher teacher until the next class in which the experimental procedures would be applied. Two semi-structured interview forms were prepared to determine the feelings and thoughts of the students on PAL and LT techniques.

Data Collection Procedures

Since they are directly related to the reading comprehension learning outcomes, the learning outcomes T.6.3.5 and T.6.3.6 of the "Reading/Vocabulary" part of the Turkish Course Curriculum (MEB, 2019b) were used in the research. Since there was no activity intended for the learning outcomes T.6.3.14 and T.6.3.28 in 6th Grade Turkish Textbook (MEB, 2018) on the date the experimental procedures would be practiced, no study was conducted on these learning outcomes. The learning outcomes T.6.3.23 and T.6.3.33 were not used in the research as they are not measurable. The learning outcomes for 6th grade "Reading" section of Turkish Course Curriculum used in the experimental procedures are shown in Table 1.

In preparing the activities to be used in the experimental groups, activities in accordance with LT and PAL were designed towards Reading/Vocabulary and Reading/Comprehension learning outcomes embedded in the ten reading texts included in the themes of "Nature and the Universe, Our National Culture, Health and Sports, Individual and Society" in the 6th Grade Turkish Textbook (MEB, 2018) anticipated to be covered on the date experimental procedures would be applied. *For peer assisted learning*, texts in which paragraph shrinking technique can be used were designated. In this context, a different kind of structuring was adopted for the activities to be used in Experimental Group 1 and Experimental Group 2 in the texts "What We Wonder", "The Story of Tarhana", "Water

Pollution", and "Time for Cycling". The text and activities in the 6th Grade Turkish Textbook (MEB, 2018) were used in the Control Group. Lesson plans to be applied in the experimental groups and control groups were created. The researcher paid attention to that the students in the experimental and control groups would be performing an equal number of activities regarding the learning outcomes within the scope of the research. The research group students were given Reading Habit Questionnaire, Reading Attitude Scale and Reading Comprehension Achievement Test respectively on different days during the week of February 4-8, 2019. Applied education was given towards *peer-supported learning* in Experimental Group 1 and towards *learning together* in Experimental Group 2 on February 11-12, 2019, through the text "What We Wonder" in the theme "Nature and the Universe", and the activities prepared based on the text.

While forming peer pairs in Experimental Group 1, the students were ranked by success according to the Reading Comprehension Achievement Test (pretest). The prepared list was divided into half, and the highest-ranking student in the better-performing half was matched with the most successful student in the lower-performing half. The students in the second row of each half were paired, and the pairing continued until all students had a partner. Students who may have adaptation problems were examined and necessary changes were made. Attention was paid to equal success status of the teams while the peer pairs were being grouped into teams A and B. A discussion environment was created before starting the experimental procedures, and the points that should be taken care of in the learning process were determined. In Experimental Group 2, heterogeneous groups of 4-5 people were determined to study together for three weeks. The results of the Reading Attitude Scale, Reading Comprehension Achievement Test and Reading Habits Questionnaire were used while determining the groups. Having taught the research group for three academic years, the researcher teacher formed the learning groups by using the prior information on the students' socioeconomic status. The physical layout of the classroom was arranged so that group members could communicate with each other comfortably and would not disturb other groups. Care was taken to assign roles such as spokesperson, reader, encourager, writer, illustrator to different students in each practice. The responsibilities of the students were explained, and the issues to be considered in the learning process were determined by creating a discussion environment. The products created by the groups were shared with the class at the end of the study, and a randomly selected student from each group was asked questions about the study after practices.

The experimental procedures, which would be completed in a total of 9 weeks (26 hours), took 12 weeks as each theme included a listening text. The research group was administered the Reading Attitude Scale on the day the experimental procedures were completed, and the Reading Comprehension Achievement Test post-test the next day. For the semi-structured interview, students were selected from the volunteers in the experimental groups, as two for each success bands (low, medium and high) in the Reading

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Table 1. Learning outcomes for reading area used in the research

Vocabulary	T.6.3.5. Students are able to predict the meaning of unfamiliar words and phrases using the context.
	T.6.3.6. Students are able to identify the contribution of idioms and proverbs to the text.
Comprehension	T.6.3.15. Students are able to predict the subject of the text to be read from the visual and the title.
	T.6.3.16. Students are able to summarize what they have read.
	T.6.3.17. Students are able to answer the questions about the text.
	T.6.3.18. Students are able to ask questions about the text.
	T.6.3.19. Students are able to identify the subject of the text.
	T.6.3.20. Students are able to identify the main idea/theme of the text.
	T.6.3.21. Students are able to specify a title appropriate for the content of the text.
	T.6.3.22. Students are able to identify the story elements in the text.
	T.6.3.24. Students are able to interpret the content of the text.
	T.6.3.25. Students are able to makes comparisons between texts.
	T.6.3.26. Students are able to distinguish between text types.
	T.6.3.27. Students are able to explain the form features of a poem.
	T.6.3.29. Students are able to makes inferences about what they have read.
	T.6.3.30. Students are able to answer questions about images.
	T.6.3.31. Students are able to comprehend the ways important points in the texts are emphasized.
	T.6.3.32. Students are able to evaluate media texts.
	T.6.3.34. Students are able to question the reliability of information sources.
	T.6.3.35. Students are able to interpret the information presented in graphs, tables and Figures.

Comprehension Achievement Test pretest application. Retention test of the Reading Attitude Scale and the Reading Comprehension Achievement Test was conducted 18 weeks after the post-tests were administered, and the data collection process of the study lasted for a total of 32 weeks.

Data Analysis

The quantitative data of the study were analyzed using the Statistical Package for the Social Sciences (SPSS) 23.0 package software. Normality test was performed to determine which of the parametric or non-parametric analysis techniques would be used in the data analysis of the achievement test and the attitude scale. Parametric tests were favored to evaluate the data since all of the pretest, post-test and retention test scores of the research group students in the Reading Comprehension Achievement Test, and the majority of the pretest, post-test and retention test scores of the Experimental Group 1 and Experimental Group 2 students' Reading Attitude Reading Scale showed normal distribution according to the Shapiro Wilk normality test (p>.05).

Dependent Groups t-Test was used in order to determine whether there was a significant difference between their reading comprehension achievements and attitudes towards reading in the research group according to the pre-post-test, post-test-retention test results; Independent Groups One-Way ANOVA in order to determine whether there was a significant difference between post-test scores and retention test scores in the Reading Comprehension Achievement Test and Reading Attitude Scale; and the Post Hoc-LSD (Multiple comparison - smallest significant differences) test in order to identify the source of the significant difference between the scores of the control and experimental groups in the Reading Attitude Scale retention application.

Effect size of the applications performed was interpreted by calculating the Cohen's d effect size in the findings where there was a significant difference as a result of the Dependent Groups t-Test analysis (p<.05). According to Cohen (1988), if the d value is less than 0.2, the effect is weak; small when less than 0.5; medium if less than 0.8; strong if it is from 0.8 to 1; and very strong when it is greater than 1. The eta square effect size (η^2) was calculated using SPSS 23.0 for the findings in which a significant difference was detected as a result of the Independent Groups One-Way ANOVA Test. The qualitative data were analyzed using content analysis.

RESULTS

The first sub-problem of the study investigates the effect of the *peer-assisted learning* technique on the reading comprehension achievement of 6th grade female students. Table 2 shows that there is a significant difference between the pretest and post-test mean achievement scores for the first experimental group (t=-6.37, p<.05). The effect size of PAL was found to be 1.30 in this difference which emerged in favor of the post-test. When Table 3 is examined, it is seen that there is a significant difference in favor of the post-test between post-test and retention test mean scores in the Reading Comprehension Achievement Test for the Experimental Group 1 (t=2.82, p<.05). Cohen's d effect size of the significant difference was calculated as.57.

The second question of the research investigates the effect of the *learning together* technique on the reading comprehension achievement of 6th grade female students. As can be seen in Table 4, there is a significant difference in favor of the post-test between the pretest and post-test mean achievement scores in the Reading Comprehension Achievement Test for the Experimental Group 2 students (t=-2.82, p<.05). The Cohen's d effect size obtained from these data is.57. When Table 5 is examined, it is seen that there is no significant difference between the post-test and retention test mean achievement scores in the Reading Comprehension Achievement Test there is a significant difference in favor of the post-test between the pretest and post-test

mean achievement scores in the Reading Comprehension Achievement Test for the second experimental group (t=.79, p>.05).

The third sub-problem of the study investigates the effects of current practices used in Turkish classes on reading comprehension achievement of 6th grade female students. As can be seen in Table 6, there is no significant difference between the pretest and post-test mean achievement scores in the Reading Comprehension Achievement Test for the Control Group (t= -.82, p>.05). When Table 7 is examined, it is seen that there is no significant difference between the post-test and retention test mean achievement scores in the Reading Comprehension Achievement Test (t=.58, p>,05).

Findings related to the fourth question of the research are presented in Tables 8 and 9. There is no significant difference by statistical measurements between the post-test achievement scores of the research group (F=.440, p>.05). When Table 9 is examined, it is seen that there is no significant difference between the scores attained by the control and experimental groups in the Reading Comprehension Achievement Test retention application (F=.329, p>.05).

The pretest, post-test and retention test mean scores in the Reading Comprehension Achievement Test for the control and experimental groups can be seen more clearly in Figure 1. In the RCAT post-test, the arithmetic mean of the Experimental Group 1 and Experimental Group 2 is higher than the arithmetic mean of the Control Group. In the RCAT retention test, the arithmetic mean of the Experimental Group 2 students is higher than the arithmetic mean of the Experimental Group 1 and Control Group.

Findings related to the effects of the *peer assisted learning* technique on 6th grade female students' attitudes towards reading are presented in Tables 10 and 11. When Table 10

Table 2. Dependent groups t-test results regarding reading comprehension achievement test pre-post-test scores for experimental Group 1

Group	Application	n	M	Ss	t	SD	p	d
Experimental Group 1	Reading Comprehension Achievement Test (RCAT) (Pretest)	24	62.95	18.47	-6.37	23	0.000	1.30
	RCAT (Post-Test)	24	70.00	16.57				

Table 3. Dependent groups t-test results regarding reading comprehension achievement test pre-post-test scores for experimental Group 1

Group	Application	n	M	Ss	t	SD	p	d
Experimental Group 1	RCAT (Post-Test)	24	70.00	16.57	2.82	23	0.010	0.57
	RCAT (Retention Test)	24	64.66	17.87				

Table 4. Dependent groups t-test results regarding reading comprehension achievement test pre-post-test scores for experimental Group 2

Group	Application	n	M	Ss	t	SD	p	d
Experimental Group 2	RCAT (Pretest)	24	62.83	15.69	-2.82	23	0.010	0.57
	RCAT (Post-Test)	24	69.20	13.41				

Table 5. Dependent groups t-test results regarding reading comprehension achievement test post-test and retention test scores for experimental Group 2

Group	Application	n	M	Ss	t	SD	p
Experimental Group 2	RCAT (Post-Test)	24	69.20	13.41	0.79	23	0.436
	RCAT (Retention Test)	24	68.00	11.40			

Table 6. Dependent groups t-test results regarding reading comprehension achievement test pretest and post-test scores for the control Group

Group	Application	n	M	Ss	t	SD	p
Control Group	RCAT (Pretest)	26	64.69	17.84	-0.82	25	0.417
	RCAT (Post-Test)	26	66.42	12.52			

Table 7. Dependent groups t-test results regarding reading comprehension achievement test post-test and retention test scores for the control Group

Group	Application	n	M	Ss	t	SD	p
Control Group	RCAT (Post-Test)	26	66.42	12.52	0.58	25	0.565
	RCAT (Retention Test)	26	65.34	15.24			

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Table 8. One-way anova results regarding reading comprehension achievement test post-test scores for the research group

	Sum of Squares	SD	Mean Square	F	p
Intergroup	178.182	2	89.091	0.440	0.646
Intragroup	14386.304	71	202.624		
Total	14564.486	73			

Table 9. One-way ANOVA results regarding reading comprehension achievement test retention test scores for the research group

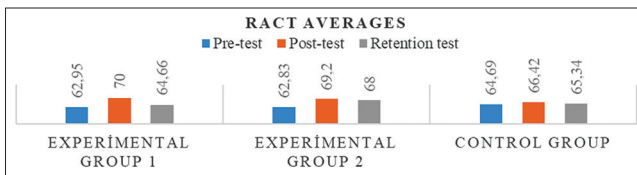|	Sum of Squares	SD	Mean Square	F	p
Intergroup	149.769	2	74.884	0.329	0.721
Intragroup	16151.218	71	227.482		
Total	16300.986	73			

Figure 1. Reading comprehension achievement test averages for the control and experimental groups

is examined, a significant difference is observable in favor of the pretest between the pretest and post-test mean scores in the Reading Attitude Scale for the Experimental Group 1 (t=4.15, p<.05). Cohen's d effect size of this significant difference was calculated as.84. According to the findings given in Table 11, there is no significant difference between the post-test and retention test mean scores for the first experimental group (t=-1.032, p>.05).

The seventh question of the study investigates the effect of the *learning together* technique on students' attitudes towards reading. When Table 12 is examined, it is seen that there is a significant difference in favor of the pretest between the pre-post-test mean scores in the Reading Attitude Scale for the second experimental group (t=2.64, p<.05). The Cohen's d effect size obtained from these data is.53. As can be seen in Table 13, there is a significant difference in favor of the retention test between the post-test-retention test mean scores in the Reading Attitude Scale for the second experimental group (t=-2.68, p<.05), and Cohen's d effect size is .54.

Tables 14 and 15 show the findings regarding the effect of the current practices used in Turkish courses on students' attitudes towards reading. As can be seen in Table 14, there is a significant difference in favor of the pretest between the pretest and post-test mean scores in the Reading Attitude Scale for the Control Group (t=-2.29, p<.05), and Cohen's d effect size is.44. According to the data in Table 15, there is no significant difference between the post-test and retention test mean scores in the Reading Attitude Scale for the Control Group (t=-1.032, p>.05).

The ninth question of the study investigates whether there is a significant difference between attitude post-test scores for the classes practiced peer-assisted learning, learning together and current practices. As shown in Table 16, there is no significant difference between the scores of control and experimental groups in the Reading Attitude Scale post-test (F=1.859, p>.05).

When Table 17 is examined, a significant difference is observable between the control and experimental groups in the Reading Attitude Scale retention application (F=5.508, p<.05). The eta square value of this significant difference is.134. Post Hoc-LSD test (multiple comparisons - the smallest significant differences) was applied in order to determine the source of this statistically significant difference, and the analysis result is presented in Table 18. A significant difference was found against the Experimental Group 2 between the retention test mean scores in the Reading Attitude Scale for the Experimental Group 1 and Experimental Group 2 (p<.05). A significant difference was observed against The Experimental Group 2 between the retention test mean scores in reading attitudes for the Experimental Group 2 and Control Group (p<.05). No significant difference was detected between retention test averages in reading attitudes for the Control Group and the Experimental Group 1 where peer-assisted learning was practiced (p>.05).

The difference between control and experimental groups in the reading attitude scale pretest, post-test, and retention test score averages is clearly visible in Figure 2. The arithmetic average of the Experimental Group 2 and the Control Group is higher than the Experimental Group 1 in post-test while the arithmetic average of the Control Group is lower than the Experimental Group 1 and Experimental Group 2 according to the retention test results.

The findings in the study obtained from semi-structured student interviews are given in Table 19. It is seen that the positive opinions (f=20) regarding the *peer-assisted learning* technique are more than negative ones (f=8). The positive opinion with the highest frequency is *being fun* (f=6) while the negative opinions with the highest frequency are *some students' reluctance to study*, *being difficult to agree in case of a conflict of opinion*, *blaming each other for mistakes*, *not wishing to participate in another peer-assisted exercise*.

As shown in Table 20, the data from student journals show that the total frequency of *positive opinions* regarding PAL is 211, while *negative opinions* have a total frequency of 17. When the positive opinions are examined, the most frequently repeated sub-themes are respectively *learning by helping each other* (f=75), *being fun* (f=60), *correcting mistakes* (f=18), *useful* (f=14), *strengthening communication* (f=12), *happy to contribute to learning* (f=12), and *making decisions through discussion*(f=11). Of the negative opinions expressed by the students in their journals, the sub-theme with the highest frequency is *carelessness (f=9)*.

As shown in Table 21, positive opinions (f=27) regarding learning together in student interviews are greater than negative opinions (f=8). The most frequently expressed positive opinions regarding LT by students (f=6) are *being fun*,

Table 10. Dependent groups t-test results regarding reading attitude scale pretest and post-test scores for experimental Group 1

Group	Application	n	M	Ss	t	SD	p	d
Experimental Group 1	Reading Attitude Scale (RAS) (Pretest)	24	109.33	11.80	4.15	23	0.000	0.84
	RAS (Post-Test)	24	97.50	13.79				

Table 11. Dependent groups t-test results regarding reading attitude scale pretest and retention test scores for experimental Group 1

Group	Application	n	M	Ss	t	SD	p
Experimental Group 1	RAS (Post-Test)	24	97.50	13.79	-1.032	23	0.313*
	RAS (Retention Test)	24	100.29	15.50			

Table 12. Dependent groups t-test results regarding reading attitude scale pretest and post-test scores for experimental Group 2

Group	Application	n	M	Ss	t	SD	p	d
Experimental Group 2	(RAS) (Pretest)	24	110.25	8.31	2.64	23	0.015	0.53
	RAS (Post-Test)	24	104.54	10.80				

Table 13. Dependent groups t-test results regarding reading attitude scale post-test and retention test scores for experimental Group 2

Group	Application	n	M	Ss	t	SD	p	d
Experimental Group 2	RAS (Post-Test)	24	104.54	10.80	-2.684	23	0.013	0.54
	RAS (Retention Test)	24	109.12	8.59				

Table 14. Dependent groups t-test results regarding reading attitude scale pretest and post-test scores for control Group

Group	Application	n	M	Ss	t	SD	p	d
Control Group	(RAS) (Pretest)	26	108.26	13.92	2.290	25	0.031	0.44
	RAS (Post-Test)	26	102.92	14.78				

Table 15. Dependent groups t-test results regarding reading attitude scale post-test and retention test scores for control Group

Group	Application	n	M	Ss	t	SD	p
Control Group	RAS (Post-Test)	26	102.92	14.78	1.631	25	0.115
	RAS (Retention Test)	26	95.50	17.91			

Table 16. One-way ANOVA results regarding reading attitude scale post-test scores for the research Group

	Sum of Squares	SD	Mean Square	F	p
Intergroup	656.047	2	328.023	1.859	0.163
Intragroup	12527.804	71	176.448		
Total	13183.851	73			

Table 17. One-way ANOVA results regarding reading attitude scale retention test scores for the research Group

	Sum of Squares	SD	Mean Square	F	p	η²
Intergroup	2366.363	2	1183.181	5.508	0.006	0.134
Intragroup	15252.083	71	214.818			
Total	17618.446	73				

increasing reading comprehension achievement and *wishing to participate in another learning together exercise* while the negative opinions with the highest frequency (f=2) are *no change in comprehension achievement*, *not respecting some people's opinions* and *reluctance to study in students with opinions not gaining acceptance*.

As shown in Table 22, the total frequency of *positive* opinions regarding LT in student journals is higher than the total frequency of *negative* opinions. The mostly charged positive opinion is *being funny* sub-theme (f=63). Other positive opinions expressed by students about LT are respectively *strengthening communication* (f=39), *learning by helping each other* (f=37), *participation of all the group members in the classroom activities* (f=26), *better comprehension* (f=15), and *happy to teach someone else* (f=14). Those with the highest frequency of negative opinions regarding LT in

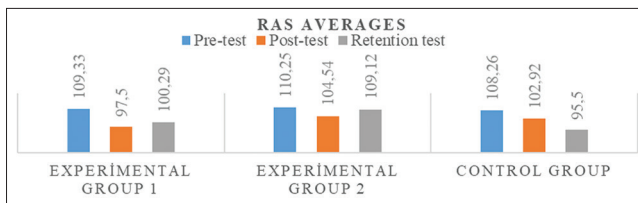*Effect of Peer-Assisted and Learning Together Techniques on 6th Grade Students'*
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Figure 2. Reading attitude scale means for the control and experimental groups

Table 18. Post Hoc-LSD test results for the research group's reading attitude scale retention application scores

	Mean Difference	Sh	p
Experimental Group 1			
Experimental Group 2	-8.83333	4.23102	0.040
Control Group	4.79167	4.14885	0.252
Experimental Group 2			
Experimental Group 1	8.83333	4.23102	0.040
Control Group	13.62500	4.14885	0.002
Control Group			
Experimental Group 1	-4.79167	4.14885	0.252
Experimental Group 2	-13.62500	4.14885	0.002

Table 19. Interview findings on peer-assisted learning

Theme	Sub-theme	f	Total
Positive opinions	Being fun	6	20
	Learning by helping each other	4	
	Wishing to participate in another peer-assisted exercise	4	
	Teaching how to determine the subject and main idea of the text	3	
	Increasing attention	3	
Negative opinions	Some students' reluctance to study	2	8
	Being difficult to agree in case of a conflict of opinion	2	
	Blaming each other for mistakes	2	
	Not wishing to participate in another peer-assisted exercise	2	

student journals are *loss of time* (f=10) *and lack of communication within the group* (f=7).

DISCUSSION

The research observed that PAL positively and greatly affected the reading comprehension achievements of the 6th grade female students. Using interactive exercises among students in a learning environment makes it easier to improve students' reading comprehension skills. According to Winne (1985), information in individual learning is limited to two sources as the cognitive resources of the individual and the total sources of information available to the individual (books, databases, etc.). Students working with their peers can comprehend all aspects of a course material

Table 20. Findings from student journals on peer-assisted learning

Theme	Sub-theme	f	Total
Positive opinions	Learning by helping each other	75	211
	Being fun	60	
	Correcting each other's mistakes	18	
	Useful	14	
	Strengthening communication	12	
	Happy to contribute to learning	12	
	Making decisions through discussion	11	
	Improving self-esteem	5	
	Making the subject easy to understand	4	
Negative opinions	Carelessness	9	17
	Being boring	4	
	Loss of time	4	

Table 21. Interview findings on learning together

Theme	Sub-theme	f	Total
Positive opinions	Being fun	6	27
	Increasing reading comprehension achievement	6	
	Wishing to participate in another study where learning together is applied	6	
	Learning by helping each other	3	
	Learning by asking a friend	2	
	Strengthening friendship relationships	2	
	Learning about different thoughts	2	
Negative opinions	No change in reading comprehension achievement	2	8
	Not respecting some people's opinions	2	
	Reluctance to study in students with opinions not gaining acceptance	2	

Table 22. Findings from student journals on learning together

Theme	Sub-theme	f	Total
Positive opinions	Fun	63	213
	Strengthening communication	39	
	Learning by helping each other	37	
	Participation of all the group members in the classroom activities	26	
	Better comprehension	15	
	Happy to teach someone else	14	
	Group members' doing their tasks	10	
	Correcting each other's mistakes	9	
Negative opinions	Loss of time	10	31
	Lack of communication within the group	7	
	Failure of some people to do their tasks	5	
	Reluctance	4	
	Not caring about someone else's opinions	3	
	Blaming each other	2	

as they have the opportunity to benefit from three different learning sources (the cognitive resource of the student, the cognitive resource of the peer, other sources of information) in this way. Students who support each other in deepening and organizing information make the learning process more meaningful.

In the class where *peer-assisted learning* was applied, a significant difference was found in favor of the post-test between the post-test and retention test in the Reading Comprehension Achievement Test, and the effect size of these data was determined to be medium (d=.57). A decrease in scores attained from the retention test can be considered normal since the retention test is administered 18 weeks after the post-test. The researcher considers continuity in peer support to be important in terms of improving reading comprehension achievement. The failure of students to continue formal education for 12 weeks (summer holiday) may have negatively affected the persistence of their reading achievements because, as Jensen (2015) points out, the more often knowledge or skill is repeated and performed, the more it is reinforced.

The research detected a significant difference with medium effect size in favor of the post-test between the pretest and post-test mean achievement scores of the students who took courses with the *learning together* technique (d=.57). This finding is in line with the finding by Kaldırım and Tavşanlı (2018) in their meta-analysis study that *cooperative learning* moderately affects reading skills and general success in Turkish course. Several studies are available that have found that the cooperative learning (CL) method increases students' reading comprehension achievements (Chapman, 1991; Ghaith, 2003; Güngor-Kılıç, 2004; Kuşdemir-Kayiran, 2007; Skeans, 1991; Stevens et al., 1991; Stevens, 2003). It can be argued that the students maintained their achievement levels they reached in the post-test as a significance difference was found between post-test and retention test mean achievement scores for the students in the class where *learning together* was applied.

It is possible to argue that current practices are not effective in increasing the reading comprehension achievements of 6th grade students, but they help retain their reading comprehension achievements. According to Arıcı (2018), an increasing, expanding, and sustained effort is required to improve reading skills. Since reading comprehension education is a process, current practices cannot be interpreted not to be effective in improving students' reading comprehension skills.

One can argue that *learning together*, *peer-assisted learning* or current practices has effects at similar levels in terms of improving or retaining reading comprehension achievements of the 6th grade female students. Peers can affect each other in a positive way as well as negatively. Çankaya (2011) states that the negative effects are mostly exercised through modeling and peer bullying. Of bullying behaviors, emotional bullying involves behaviors such as social isolation of the individual, exclusion from the group and ignoring (Crick & Grotpeter, 1995; Hawker & Boulton, 2000; Mynard & Joseph, 2000). School bullying was found to be a major problem during

early and middle adolescence, and girls experienced more emotional bullying (Björkqvist et al., 1992; Borntrager et al., 2009; Dölek, 2001; Mynard & Joseph, 2000). Whitted and Dupper (2005) state that bullied students focus their attention more on how to avoid being targeted by bullies than their classes, and their academic achievements decrease. Although it may be possible to detect peer bullying using the qualitative data from the study, many studies have found that students do not disclose bullying (Dölek, 2001; Fekkes et al., 2005; Hantler, 1994). This information suggests that there may have been more emotional peer bullying among the 6th grade female students who were in puberty.

Students who used PAL and LT for the first time may have been more focused on having fun, so they may have been distracted and ignored their learning goals. This idea is supported by the most commonly expressed opinion in students' interviews and journals. Since similar activities have been used in the Control Group for a long time, the learning process applied can be said to be no longer of interest to students. The experimental group students expressed in student interviews and journals that they found *prior Turkish classes* (current practices) *boring*.

Since the basic philosophies and approaches of the learning techniques used in the research are the same, one can argue that there is no significant difference between their effects on reading comprehension achievement. The research conducted proves that *cooperative learning* techniques are not effective in increasing academic achievement in all learning areas and age groups, in support of the research by Büker (2019) and Antekin (2019).

There are studies in the literature that suggest that students' motivation towards reading and their interest in the course have increased through *peer teaching and peer education* in primary school (Field et al., 2004; Türkmenoğlu, 2016). The reason for obtaining results in this study different from similar studies in the literature may be that the research was conducted with pre-adolescent students. As mentioned above, the reading attitudes of students who are more exposed to peer bullying during pre-adolescence may be negatively affected.

The LT technique negatively affected at a moderate level the attitudes of 6th grade female students towards reading. Göktaş's (2017) meta-analysis study which suggests that the effect of CL on attitude towards the course is small. Since the mean scores of the students in the attitude scale retention application were higher than the post-test averages, one can argue that the students' attitudes towards reading were positively affected in the period when LT was not applied. Negative attitudes of the students towards reading might have decreased as the peer bullying decreased since the activities were done individually after the experimental procedures, and then the students stayed away from the school environment during summer holiday. A long period of time is needed since it is difficult to change attitudes.

The research has shown that current practices do not improve 6th grade female students' attitudes towards reading, on the contrary, they affect them negatively and do not ensure the retention of attitudes. This finding supports the view that

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students' reading attitudes may weaken as their age increases (Alvermann & Moore, 1991; Hayes, 2000) because there is a total of 30 weeks between the Reading Attitude Scale pretest and the application time of retention test. Because the Control Group students have been taking classes using current practices for a long time, they may have gotten used to this learning process and their reading attitudes may not have been positively affected.

This study determines that the effects of PAL, LT and current practices on 6ᵗʰ grade female students' attitudes towards reading are similar. Yet, it also determines that the LT technique has adversely affected the retention of students' attitudes towards reading compared to PAL and current practices. The researcher is of the opinion that peer pressure may have increased since more students interacted in the LT process. The findings obtained from the student interviews and journals suggest that the students generally expressed a positive opinion about PAL. Important negative opinions expressed by the students are some peers' reluctance, some peers' carelessness, blaming their peers, not caring about their peers' thoughts, putting pressure on their peers; the technique's being boring, and loss of time. According to Kınık and Odacı (2019), adolescents displaying submissive behavior cannot express their wishes and thoughts openly with the fear of exclusion and belittlement. 6ᵗʰ grade female students who are in the pre-adolescence period may have been reluctant for the activities and remained silent by submitting to the pressure of their peers. The fact that students complain about carelessness during the PAL process supports the view of Ogden and Hagen (2019) that the social world distracts adolescents during the class.

Students generally enjoy learning with the LT technique and find this technique useful. This may be because, as Kıran (2002) states, adolescents believe that their peers understand themselves better than adults, feel more comfortable with their peers, and enjoy spending time with peer groups. Even if the students' negative opinions about *learning together* are few, these opinions make it easier to detect the negativities in the application process of the technique. The most frequently expressed negative opinions are not respecting some people's opinions, reluctance to study in students with opinions not gaining acceptance, loss of time, lack of communication within the group, failure of some people to do their tasks and blaming each other. The negative opinions about LT can be said to be consistent within themselves. Lack of communication and disruptions in the fulfillment of tasks can cause loss of time in working process. Blaming each other and not respecting some people's opinions prove that peer bullying is experienced in the learning environment.

CONCLUSIONS AND SUGGESTIONS

The research has observed that *peer-assisted learning* has a high level of positive effect on the reading comprehension achievement of the 6ᵗʰ grade female students, but it is not effective in ensuring the retention of their reading comprehension achievement. *Learning together* technique affects students' reading comprehension success in a moderate way and ensures the retention of their reading comprehension

achievement. Current practices in Turkish courses do not make a significant difference in students' reading comprehension achievement but ensure the retention of their reading comprehension achievement. *Peer-assisted learning*, *learning together*, and current practices have effects at similar levels on the 6ᵗʰ grade female students' reading comprehension achievements and its retention. *Peer-assisted learning* strongly affects the 6ᵗʰ grade female students' attitudes towards reading in a negative way but ensures the retention of their reading attitudes. *Learning together* negatively affects students' attitudes towards reading at a moderate level, and positively affects the retention of reading attitudes at a moderate level according to the post-test. Current practices in Turkish courses negatively affect students' attitudes towards reading at a moderate level and ensure the retention of reading attitudes. *Peer assisted learning*, *learning together* and current practices do not make a significant difference in students' attitudes towards reading. There is a significant difference against *learning together* between *peer-assisted learning*, *learning together* and current practices in terms of their effects on the retention of 6ᵗʰ grade female students' reading attitudes. The opinions of 6ᵗʰ grade female students on *peer-assisted learning* and *learning together* are generally positive.

In line with the results obtained from the research, the following can be recommended to educators: Students can be provided with an opportunity to sit with their group partners or peers during all Turkish classes. It may be more beneficial for the development of reading comprehension skills to continue with PAL and LT applications without interruption. Several suggestions for future research are as follows: The effects of PAL and LT techniques on students' reading comprehension achievement and reading attitudes in coed classes can be investigated. The effects of the LT and PAL techniques on academic achievement or attitude can be determined by applying these techniques at different grade levels and in different learning areas by researchers on Turkish education.

ETHICAL STATEMENTS

The authors confirm that approval was obtained from Governorship of Trabzon, Provincial Directorate of National Education (Approval Date/Number: 28.03.2019- E. 6440270).

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