



The Effect of Creative Writing Exercises in Turkish Classes on Students' Academic Achievement: A Meta-Analysis

Research Article

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ABSTRACT

Creative writing is an important cognitive teaching method that allows students/individuals to express their thoughts, desires, dreams, feelings in an articulate, authentic and effective way. There are numerous scientific studies investigating the positive impact of creative writing exercises on students' other skills. Although there are many studies conducted in this context in the literature, there has not been any studies aimed at combining the results of all these studies and aiming to reach more accurate results and explanations by high-level analyses. Therefore, the purpose of this research is to determine the effect of creative writing practices in Turkish classes, on the academic achievement of students. As a result of the literature review, 25 studies that research the impact of creative writing activities performed within the scope of the Turkish courses in Turkey on the students' academic achievements and that met inclusion criteria in this study were chosen to be analyzed through a meta-analysis. Comprehensive Meta-Analysis (CMA) software was used to analyze data in this research. As a result of the analyses, it has been observed that creative writing activities had a positive effect on students' academic achievement in Turkish courses compared to the traditional teaching techniques. In line with the random effects model, the 95% confidence interval was used for the analysis, and the average effect size was calculated as 1.198. When interpreted according to Cohen et al. (2011), it is seen that creative writing activities have a strong effect in terms of improving the academic success in Turkish lessons.

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Keywords:

creative writing, Turkish lesson, Turkish education, academic achievement, meta-analysis.

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Introduction

Creative Writing

According to Torrance, creativity is "Sensing difficulties, problems, gaps in information, missing elements, something askew; making guesses and formulating hypotheses about these deficiencies; evaluating and testing these guesses and hypotheses; possibly revising and retesting them; and finally communicating the results "(Haensly and Reynolds, 1989, p. 56).

Although creativity expressed as the ability to produce and manifest different things from what is present creativity is perceived as a unique characteristic given only to some gifted and lucky individuals, it is an emotional and intellectual skill that exists in every individual and can be mastered. In almost all the curricula created for Turkish Language course in our country in recent years, one of the important skills required to be achieved by the students through the learning areas and gains is the creative thinking skill.

Writing is expressing, through script, "What we hear, think, design, see, experience what we see is to tell in writing. It is a way, such as speech, of communicating with others and explaining ourselves. (Sever, 2004, p. 24). Creative writing, which is composed of the combination of creative thinking and writing, and can be defined as the expression of the individual's/student's thoughts on a subject by using their imagination through writing, emerges as a skill immediately related to creativity (Oral, 2008). (Oral, 2008). Creative writing is the embodiment of all information obtained through the observations of the outside world in a different way than other people. It is the manifestation of creative thoughts via such means of writing as stories, poem, fairy tales, cartoons, and so forth (Kaya, 2013, p. 91).

Creative writing, which was organized as an academic initiative by a group of authors to discuss their writing, is the name given to the design of the studying of texts and implementation methods as a combination of study and thinking disciplines between the years 1880 and 1940. The first examples of creative writing which are considered to be the essays written at Harvard University are not only a complex problem-solving activity also consider the unique and meaningful experience of the individual, which means to explore and use language to express them (Myers, 1993).

Creative writing is an ability to be emphasized in all levels of education and teaching in America and Europe, and therefore the courses on creative writing have already taken their place in the curriculum. This situation, which aims to reveal the hidden forces inside individuals rather than educating writers, is important in terms of showing the contribution of creative writing to the success of individuals, self-discovery, the exploration of one's own opportunities and boundaries, the awareness of one's own interests, and self-confidence (İpşiroğlu, 2006).

Creative writing, which has a central importance in the development and self-esteem of children and encourages people to turn to what they are interested in; is used for internalizing the writing process, providing the opportunity to practice at each stage of the writing process, making writing available for use in all areas, providing holistic learning, facilitating collaborative work, providing different learning opportunities to all students and providing the transition to writing in literary genres (Grainger, T.; Gooch, K.; Lambirth, A. 2005; Maltepe, 2007). The most important purpose of creative writing in addition to these is to enable students to express themselves in writing in a unique, interesting, fluent and effective way.

The most important task related to the successful application of creative writing technique in educational environment falls undoubtedly on the behalf of the teacher. In this regard, Başkök (2012, p. 19) stated, "The role of the teacher in creative writing is mostly about providing guidance to the students. It is the student who will carry out the study, to discover new ideas, to make new, not established, interesting relations between the elements that seem irrelevant. In this process, the teacher is responsible for guiding and

supporting the students" (Başkök, 2012, p. 19). In addition, it is very important and necessary for teachers to participate in writing activities in creative writing exercises.

Aim of the Research

Creative writing is a subject that has been studied extensively on the basis of the fact that it is a technique that conforms to the philosophy of constructivist education put in the center in Turkey in recent years. Both theoretical and empirical studies on creative writing have already found a place in the literature. When we considered the experimental studies, we have encountered many studies emphasizing the effectiveness and usefulness of creative writing approach in comparison to the traditional teaching approaches. In particular, experimental research on the positive impact of creative writing on academic achievement is invaluable. All of these studies end with the suggestion that creative writing activities should be used more frequently in the courses. Although such experimental studies on the impact of creative writing on academic achievement in the literature have found a considerable amount of space, there is a lack of top-notch and reliable studies in the literature that will lead to new research by interpreting the knowledge accumulated by these previous studies.

The generalizability of the findings obtained in quantitative research is important. This is because science gives importance to generalizations rather than single results to provide predictions for the future. Therefore, similar researches replicated using different samples contribute to the generalizability of the findings. However, the studies in this respect may not always give the same results. This situation prevents the generalization of the results obtained. Especially in the social sciences and educational sciences which are concerned with human and human behavior, this situation becomes more complicated and raises doubts about the reliability of applied studies in these fields. As a matter of fact, it is clear that a single study carried out in these areas cannot be sufficient to generalize the results of the research. This is because although a single study has been fully planned and implemented; it has its own limitations in terms of sample, time, context, and so on. This situation prevents the generalization of the results of such a study to a great extent. Thus, it is important to synthesize and integrate the results of studies conducted with different sample groups, at different times, in different contexts, and under different conditions related to a subject (Üstün and Eryılmaz, 2014; Yılmaz, Altınkurt and Yıldırım, 2015; Davies, 2000; Radin and Ferrari, 1991; Glass, 1976).

The meta-analysis studies that aim at combining the results from different studies play an important role in fulling the gap in this regard. This is because "through meta-analysis, it is aimed to be able to reach a more precise judgment on the subject and to be able to make clearer predictions and generalizations about the future. (Dağyar and Demirel, 2015, p. 142).

Based on these underpinnings, we decided to carry out this meta-analysis study in order to reach a more precise conclusion on the effect of creative writing practices on the academic achievement of students in Turkish courses compared to the traditional teaching methods. In this context, the aim of this research is to determine the effects of creative writing activities in Turkish lessons, on students' academic achievement.

In line with the above stated purpose, the study seeks to answer the following research question:

What is the effect of creative writing activities applied within the scope of Turkish course on students' academic achievement?

Methods

In this section, we talk about the sub-topics of the research model, collection of data, inclusion criteria of studies, coding of data, analysis, and interpretation of data.

Research Model

In this study, we used meta-analysis to combine the results of the experimental studies with independent pretest-posttest control groups and that explore the impact of creative writing activities implemented under the Turkish courses on the academic success of students in Turkey. Meta-analysis can be defined as combining the quantitative results of research that have been studied within certain criteria on a particular subject and combining these results with statistical methods, calculating the effect sizes (Cohen et al., 2011; Hedges, 2007; Durlak and Lipsey, 1991; Dinçer, 2014; Salkind, 2007).

Meta-analysis, which means upper analysis or gathering of analyses, is to combine the results obtained from different studies to obtain a general result, i.e. to re-analyze these results. "Meta-analysis calculates the effect size of a variable based on mathematical analyses and thus, it definitely requires quantitative data. It is not possible to conduct meta-analysis with qualitative data since the analysis gives a quantitative finding regarded as the coefficient value of the relevant effect size" (Dinçer, 2018, p. 180).

To sum up, meta-analysis can be defined as "combining the findings of similar studies conducted in the same topic, theme, or study field based on specific criteria, interpreting the combined quantitative findings of these studies and determining the effect of a variable based on these combined results" (Dinçer, 2014, p. 4).

Meta-analysis is based on practical significance, which uses to measure of magnitude of impact rather than p on statistical significance, such as other quantitative analysis methods. In addition, meta-analysis provides an opportunity to examine the characteristic features of studies and increased power and improved sensitivity to researchers because of the use of data from primary studies; has made meta-analysis one of the most powerful research synthesis methods (Borenstein et al., 2009; Shelby and Vaske, 2008; Lipsey and Wilson, 2001; Rosenthal and DiMatteo, 2001; Cohn and Becker, 2003; Gliner et al., 2003).

The meta-analysis, which aims at interpreting and comparing the results of many independent studies on a subject, and thus making it into a broader and elaborate synthesis to guide new researches and researchers, has been used in health sciences but has become widespread in other sciences over time. However, it should be noted that meta-analysis is still not widespread in Turkey. The reason why this method of analysis, which is widely used in the international literature, is not widely accepted in the literature in Turkey, can be the lack of necessary resources for meta-analysis and some misinterpretations regarding this method of analysis (Creswell, 2014; Dinçer, 2014, 2018; Lipsey and Wilson, 2001; McMillan and Schumacher, 2001; Schulze, 2007).

Data Collection

The data for this study were collected in September 2018. In order to identify the studies to be included within the scope of meta-analysis, Web of Science, SCADA, ULAKBİM TR, ERIC, EBSCOhost, Google Scholar and YÖK Thesis databases were searched using "yaratıcı yazma, Türkçe dersi, akademik başarı, creative writing, Turkish lesson, academic achievement" keywords. 2. According to result of the research, 39 scientific studies have been carried out examining the impact of creative writing activities in Turkish on the academic achievements of students who are studying in Turkey.

When determining the studies to be included in the meta-analysis, the following criteria were taken into consideration:

- 1) Studies had to have taken place from 2000 to 2018.
- 2) Research had to be related to the subject areas of Turkish lessons.
- 3) Research had to be written in Turkish or in English.
- 4) Study had to be published as master's thesis, doctoral thesis or in peer-reviewed scientific journals.

5) Study had to be performed with students studying at the preschool, elementary school, middle school, high school or college levels in Turkey.

6) Numerical data indicating the validity and reliability of the measurement tools used in the research had to be reported.

7) The students in the experimental groups had to be instructed to use creative writing techniques and the students in the control group had been instructed using traditional lecture-based instruction.

8) Studies must have reported means, sample sizes, standard deviations, pretest and posttest correlation, weighted average differences and p-values, that are required to calculate the effect sizes.

As a result of the literature search carried out to identify the studies to be included in the meta-analysis, the research was re-evaluated in line with the criteria listed above. As a result of the evaluation, 28 studies were not included in the meta-analysis because they did not meet the above criteria. In addition, since one research conducted 2, another 3, another 4 and another 9 different studies, the effect size value for each study was calculated for each study and the related studies were included in the meta-analysis after this calculation. Thus, the above criteria identified 25 different research in 11 a total of scientific work and these were included in the meta-analysis.

Coding Procedure

Before the meta-analysis, a coding form was created to outline the work on creative writing. This form includes the following variables:

- The title of the study, the name of the author, year of publication, and publication type
- Study area
- Subject of the study
- Pattern, method, technique
- Implementation period of the study/the duration of the study
- The sample size of the study
- The education level and grade levels of the sample of the study group
- The reliability and validity of the measurement tools used
- Weighted average and standard deviation information for pretest-posttest results of experimental and control groups

In this part of the study, in order to prevent the data entry errors and to ensure the reliability of the coding, the coding of the related researches were done separately by two academicians who are Doctors of Turkish Education and in the situations where there were disagreements at the end of the coding, they gathered to reach a consensus. In this way, it has been tried to prevent problems that may be caused by incorrect data entry. The reliability of the coding was calculated by using the reliability formula of Miles and Huberman (1994) and the result was 96%. "70% and above values obtained from this formula are sufficient for reliability" (Yıldırım and Şimşek, 2011, p. 233). This result shows that the coding is reliable.

Analysis of Data

In the analysis of the study data, the study effect meta-analysis method was used. In this method, differences between the average of the experimental and control groups, the sample number of the studies, the arithmetic mean of the groups, their effect size is calculated by using standard deviation or test statistics of studies (F, t, χ^2 etc.) (Durlak, 1995).

In this study, all calculations and analyses related to meta-analysis were performed with Comprehensive Meta-Analysis (CMA) software. This program can calculate impact sizes using the findings of different types of studies included in the analysis. In meta-analysis studies, two different factors are used to calculate the impact value. These are fixed effects model and random effects model. Which of these two models is used in meta-analysis studies is related to whether homogeneous studies are distributed homogeneously through meta-analysis. First of all, the heterogeneity test was performed to determine in which model (fixed effects/random effects models) the meta-analysis should take place. In this context, if the homogeneous distribution of the studies were included in the meta-analysis was determined by using the Q-value and I2 statistics. In the study, 2 different formats were selected in the CMA program in calculating the effect sizes. In these formats, the mean values of the experimental and control groups, standard deviation values and sample sizes were calculated and the effect sizes were calculated; in other formats, the effect sizes were calculated by entering the weighted average differences, p-value and the sample size of the experimental and control groups were calculated and Hedges' g coefficient was used when calculating the effect sizes and the confidence interval was accepted as 95% in all calculations regarding the effect sizes. While interpreting the importance of the effect sizes obtained as a result of the related calculations, the criteria of Cohen et al. (2011) were taken into consideration. Although these criteria are given for Cohen's d, they can be used for Hedges' g values too (Dinçer, 2014; Borenstein, Hedges, Higgins and Rothstein, 2004; Shelby and Vaske, 2008; Sutton, Abrams, Jones, Sheldon and Song, 2000).

$0 \leq \text{Effect size value} \leq 0.20$ (Weak Impact),

$0.21 \leq \text{Domain size value} \leq 0.50$ (Small Impact),

$0.51 \leq \text{The magnitude of the effect value} \leq 1.00$ (Medium Impact),

$1.00 > \text{The magnitude of the effect value}$ (Strong Impact)

The study's publication bias; funnel chart, Rosenthal's safe N statistic and Mullen, Muellerleile and Bryant's publication bias resistance formula were calculated separately.

Findings

This study investigates the effect of creative writing applications in Turkish courses on the academic success of students in Turkey, and towards this goal, a total of 25 studies (articles-theses) were included in the meta-analysis. Descriptive data for this study were also presented in Table 1.

Table 1. Descriptive Data on Studies that Research the Effects of Creative Writing Activities on the Academic Achievement in Turkish Lessons

		Frequency	Percentage
Type of The Study	Article	3	%12
	Thesis	22	%88
Year Study was Conducted	2016	4	%16
	2015	1	%4
	2014	1	%4
	2012	4	%16
	2011	2	%8
	2010	3	%12
	2008	1	%4
	2007	9	%36
The Levels of Education in the Sample Group	4th Grade	1	%4
	5th Grade	16	%64
	6th Grade	2	%8
	7th Grade	4	%16

	8th Grade	1	%4
	Freshman Year	1	%4
Sample Size	$30 \leq N \leq 50$	12	%48
	$51 \leq N \leq 70$	9	%36
	$71 \leq N$	4	%16
The Duration of Implementation	$1 \leq S \leq 10$	2	%8
	$11 \leq S \leq 20$	23	%92
	Total	25	%100

As shown in Table 1, it can be seen that 22 of the studies included were graduate theses (88%) and 3 of them were articles (12%) in a total of 25 that have been evaluated in the meta-analysis. When we look at the years these studies were carried out we see that 9 (36%) were conducted in 2007, 4 (16%) in 2016 and 2012, 3 (12%) in 2010 and 2 (8%) in 2011. In 2015, 2014 and 2008, only 1 (4%) study on the effect of creative writing activities on the academic achievement in Turkish course was conducted. When the education levels of the sample groups of the researches are evaluated, it is understood that students in the sample group of 16 of the 25 studies were studying at the 5th-grade level. This number is equal to the 64% of all studies included in the meta-analysis. The students in the sample group of the 4 of the remaining 9 studies (16%) were grade 7 students whereas the students in the sample group of 2 of the studies (8%) were Grade 6, in another 1 (4%) 4th grade, in another 1 (4%) 8th grade and in another 1 (4%) they were freshmen. When we examine the sample size of the studies analyzed within the scope of meta-analysis, the number of students in the sample group of 12 (48%) of the 25 studies is in the $30 \leq N \leq 50$ range. While 9 of the remaining 13 works (36%), the number of the sample group of students was in the range $51 \leq N \leq 70$, in 4 (16%), it was in the $71 \leq N$ band. Finally, when we examine the duration of the 25 studies, in a total of 23 units (% 92) the duration of application of the study was 11 – 20 weeks. In 2 of the studies (8%), the duration of implementation covered a time frame of 1 – 10 weeks.

Findings Involving the Impact of Creative Writing Exercises in Turkish Lessons on Students' Academic Achievement

Although the statistical information of 25 studies included in the meta-analysis was expressed as data packets in different types (weight averages and standard deviations; t value; statistical information such as p-value and experimental-control groups), these data were combined using Comprehensive Meta-Analysis (CMA) software and the weight of each study on the meta-analysis and the common effect size of the studies were calculated. The number of students reached by the researches included in the meta-analysis is presented in the table below.

Table 2. Total Number of Students in Experiment and Control Groups Reached Through Meta-Analysis

Sample Size Reached through Meta-Analyzed Studies	
N (EXPERIMENTAL)	N (CONTROL)
1087	1003

As shown in Table 2, 25 studies were included in the meta-analysis. A total of 2090 students, 1087 of whom were in the experimental group and 1003 in the control group, were reached.

It is important to determine the homogeneity or heterogeneity of the meta-analysis before calculating the effect size and the overall effect of the studies, in order to determine the model of the meta-analysis. There are two different models of meta-analysis. These are the fixed effects model and the random effects model. If the studies included in the meta-analysis are homogeneous, fixed effect model, if they are heterogeneous random effects model was used. In this context, a heterogeneity test was defined to determine the homogeneity/heterogeneity of the studies and the results are given in the following table.

Table 3. Average Impact Sizes and Confidence Interval Lower-Upper Values Under the Fixed Effects Model

Model	Average Impact Size Value (ES)	95% Confidence Interval for Effect Size		Standard Error (SE)	Homogeneity Value (Q)	df (Q)	p	I ²
		Lower Limit	Upper Limit					
		Fixed Effects Model	1.166					

When Table 3 is examined, the value of Q values of 168.279 was determined by calculating the heterogeneity values of the studies included in the study according to the fixed effects model. According to the x2 table the critical value of 24 degrees of freedom at a 95% significance level is 36.415. In the light of these findings, the critical value of the chi-square distribution of the 24 degrees of freedom of the Q value (168.279) (df=24 for x2=36.415). According to these results, it can be said that meta-analysis studies have a heterogeneous structure. Also, the value of 85.738% as a result of the calculation of the value I2 indicates a high level of heterogeneity. In addition, when we look at Table 3 we see that the p-value is 0.000. p-value being less than 0.05 indicates that there is a significant difference between the studies included in the meta-analysis. Thus, the study was also found in a heterogeneous structure by means of the p-value.

Because the studies included in the meta-analysis were heterogeneous, the study was prepared and interpreted according to the random effects model. Below is a table showing the average effect size and other values calculated according to the random effects model.

Table 4. Average Impact Sizes and Confidence Interval Lower-Upper Values by Random Effects Model

Model	Average Impact Size Value (ES)	95% Confidence Interval for Effect Size		Standard Error (SE)	Homogeneity Value (Q)	df (Q)	p	I ²
		Lower Limit	Upper Limit					
		Random Effects Model	1.198					

When Table 4 is examined, the mean effect size value (ES) was calculated as 1.198 with a 0.132 error (SE) as a result of the analysis performed according to the random effects model. The lower limit of impact size in the 95% confidence interval is 0.939; the upper limit is 1.457. When these results are interpreted according to Cohen et al. (2011), it can be said that the creative writing activities implemented within the scope of Turkish course have a very strong effect in terms of increasing the academic achievement of students. The mean effect size value is positive (+1.198), indicating that the process is in favor of the experimental group. The forest plot showing the distribution of the effect sizes of the studies, included in the meta-analysis according to the random effects model is presented in Figure 1.

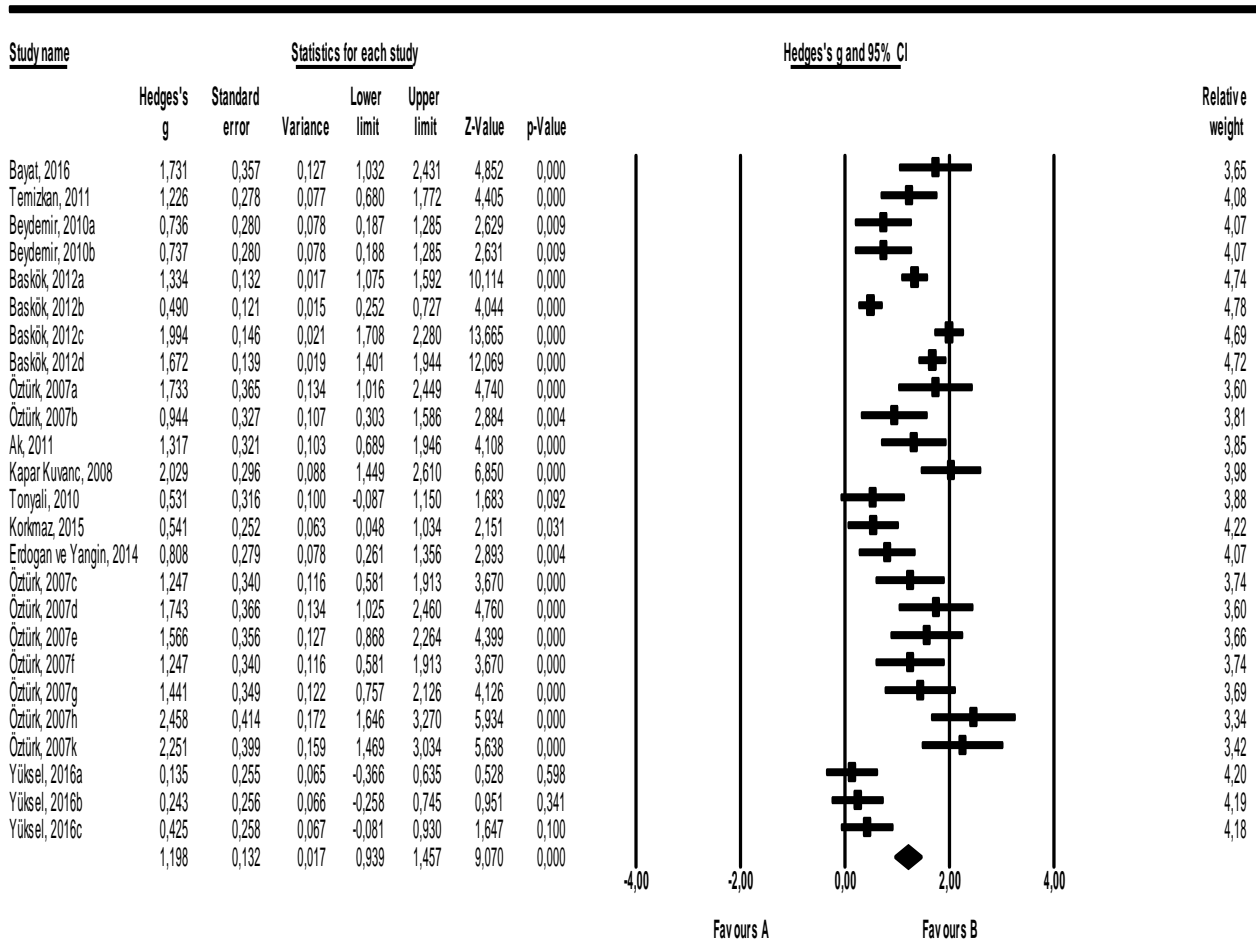


Figure 1. Forest Plot Displaying the Effect Size of Studies Under Random Effects Model

The black squares in Figure 1 show the effect sizes of individual studies, and the lines next to the squares indicate the upper and lower limits of the effect sizes in the 95% confidence interval. The weight percentages on the right side of the graph quantify the impact rate of each survey on the meta-analysis result. When the analysis of Figure 1 is examined, it is observed that the study with the widest confidence interval is Öztürk (2007h) and the study with the smallest confidence interval is Başkök (2012b). It is seen that the biggest weighted study was Başkök (2012b) with a rate of 4.78% and Öztürk (2007h) was the work with the lowest weight with a rate of 3.34% as a result of the analyses of the weights of the studies on the weight of the meta-analysis. The weight percentages of the other studies were calculated to be similar to each other.

When the data related to the effect size of the studies included in the meta-analysis were examined, it is understood that the study with the smallest effect size value was Yüksel (2016a) with 0.135 and the study with the greatest effect size value was Öztürk (2007h) with 2.458. When the statistical results of the effect sizes are analyzed, it is seen that all of the studies included in the meta-analysis have a positive effect. The positive effect of all of the studies indicates that the creative writing activities implemented within the scope of Turkish courses have an effect in favor of the experimental groups.

A funnel plot was used to determine the publication bias of the studies included in the meta-analysis. The funnel graph showing the publication bias in this study is presented in Figure 2.

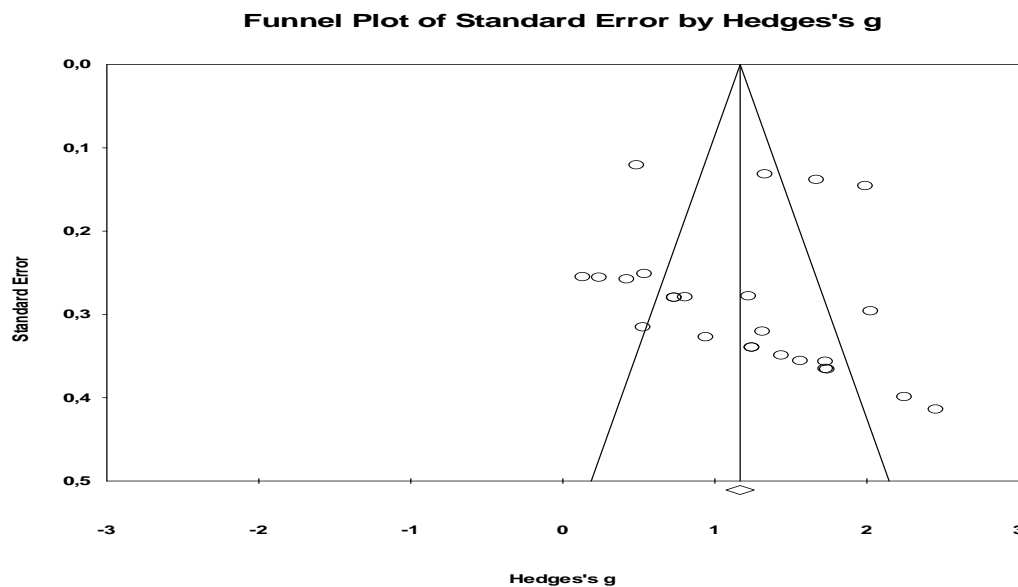


Figure 2. Funnel Plot for Broadcast Journals

Figure 2 shows that the majority of the studies included in the meta-analysis were collected in the funnel graph. This case shows that the contribution of the studies to the meta-analysis is high. When the funnel graph is examined, it is seen that the studies are not symmetrically distributed to the right and left sides of the vertical line showing the combined effect size. This case can be interpreted as the studies included in the meta-analysis may have publication bias. However, Rosenthal's secure N statistic was used to more accurately explain whether the research had a bias or not. The results obtained from the analysis are shown in Table 5.

Table 5. Rosenthal FSN Calculation for Meta-Analysis Examining the Effect of Creative Writing Activities Applied in Turkish Classes on Academic Achievement of Students

Bias Status	
Z Value for Observed Studies	23.00814
P Value for Observed Studies	0.000
Alpha	0.05
Orientation	2
Z Value for Alpha	1.95996
Number of Observed Work	25
FSN	3421

When Table 5 is examined, it is seen that the safe N number is calculated as 3421. This value refers to the number of studies with zero effect level needed to make the 1.198 common effect size obtained statistically meaningless as a result of the meta-analysis. This result indicates that the effect size obtained as a result of the meta-analysis is resistant to publication bias. Finally, Mullen, Muellerleile, and Bryant (2001) stated that the meta-analysis results should be greater than 1 for $N / (5k + 10)$ to be resistant to publication bias. When the calculations were made according to this formula [$3421 / (5 * 25 + 10) = 25.340$], the result was found to be greater than 1. All these results can be interpreted as the publication bias of the meta-analysis study is very low.

Conclusion and Suggestions

This study investigates the effect of creative writing activities in Turkish courses on the academic achievement of students. and the effect size 25 studies was calculated. The effect sizes of all these were positive. The positive effect value indicates a significant difference in favor of the experimental group. In the meta-analysis, the mean effect size value of 25 studies analyzed according to the random effects model was calculated as 1.198. This value, according to Cohen et al. (2011), indicates a very large level of influence. Classic Fail-Safe N analysis was used to test the accuracy of the findings. The result of the analysis indicates the

validity of the meta-analysis study. This results leads to the interpretation that creative writing applications in Turkish lessons have a higher impact on academic achievement than traditional teaching methods. So in this study, according to the results of the meta-analysis performed, Turkish courses where creative writing activities were implemented, creative writing exercises had a more positive impact on the academic success of the students when compared to the impact of traditional teaching methods. This indicates that creative writing applications create more effective learning environment in Turkish language lessons compared to traditional teaching approach.

In literature review, no study concerning the effect of creative writing on academic success of the students was found. Although there are experimental and semi-experimental studies on how creative writing in other courses along with Turkish language lessons affects students' academic success, the literature needs a meta-analysis combining all the results of these studies. Since there are no meta-analysis studies in the literature for comparing and discussing the results, comparing and discussing the results of meta-analyses on topics like creative writing may help understanding the results of this study. In this context, it would be appropriate to act on the basis of two dominant aspects of the creative writing technique. The first of these two dominant aspects is the close relationship of students' creativity between creative writing. Therefore, comparing the effect of other techniques highlighting students' creativity on their academic success may help contribute to understanding of the results obtained from this study.

It is worth examining the results of "The Effect of Creative Drama on Academic Achievements: A Meta-Analysis Study" by Ulubey and Toraman (2015). Because creative drama is a technique aiming to highlight the students' creativity just like creative writing. Ulubey and Toraman included a total of 65 studies investigating the effect of creative drama on students' academic success in their meta-analysis study. Results of the random effect model analysis indicate the effect of creative drama on students' academic success is quite high. This result coincides with our studies' results. This is noteworthy because it shows the positive effect of two closely related techniques highlighting the students' creativity, creative drama and creative writing, on students' academic success.

The other dominant aspect of the creative writing is that its adoption of a student-centered education approach. Comparing the results of the studies on the effects of student-centered approaches such as cooperative learning and problem-based learning, which are similar to creative writing, on students' academic success may help contribute to a better understanding of the studies' results. During literature review, we've found meta-analysis studies on effects of student-centered cooperative approaches like creative writing and problem-based learning approaches effects on students' academic success.

One of these meta-analysis studies is conducted by Kaldırım and Tavşan (2018) researching the effect of cooperative approach on students' academic success in Turkish language lessons in Turkey. The study evaluated the impact of 32 other studies. Per the results of the analyses conducted according to random effects model, the researchers concluded that cooperative learning approach had a highly positive effect on academic success of the students compared to traditional teaching methods. Another study in this context is conducted by Dağyar and Demirel in 2015. The study included findings of 98 studies investigating the effect of problem-based learning approach on the academic success of the students. The results of the relevant analyses indicate problem-based learning approach has a positive effect on students' academic success compared to traditional teaching methods. These results are noteworthy because they show the effect of student-centered teaching methods, including creative writing, on students' academic success.

The great states and developed societies in the world spend a great deal of effort and money for an effective education. Because the only way to be stable and strong in the rapidly changing world is through a quality society comprised of qualified individuals. The only way to nurture qualified individuals is, without a doubt, quality education. In this context, native-language instruction is especially vital. Because a good

education but may only be possible with a good native-language education. A good native-language education while on the one hand help the individual to create their economic, cultural and social capital, discover new technologies and teach effective use of current technologies, on the other hand functions as a tool for transferring a society's values and cultural elements to the next generation. Therefore, considering education is the most important tool and weapon for societies aiming to be strong and permanent in the current world, it is crucial to understand the importance of using effective teaching methods, techniques and strategies. The meta-analysis results of the study clearly indicate that creative writing has a positive effect on students' academic success in Turkish language lessons. Creative writing is also suitable to the constructivist approach, which is emphasized starting from the beginning of 2000's in Turkey, and the students' cognitive development. Therefore, this method should be used more frequently by Turkish language teachers, especially during native-language instruction activities and the courses should be enriched with creative writing activities. Additionally, experimental and semi-experimental studies on the effect of creative writing in Turkish language lessons on the students' academic success should be increased, which will therefore contribute to the generalization ability of the scope and results of the meta-analyses conducted in the future. Apart from these, based on the results of the study the following may be recommended in terms of research and application:

There has been no meta-analysis studies examining the effect of creative writing on various dependent variables specifically in Turkish language lessons. Therefore, it is recommended to increase experimental and semi experimental studies on creative writing activities' effect on different dimensions like students' concerns, attitudes, and perceived self-sufficiency etc. and to conduct meta-analysis studies compiling the results of these studies.

Creative writing activities may be used not only in Turkish language lessons but also as an effective teaching method in other courses. There are studies related to this in the literature. The following studies may be cited as examples; the effects of creative writing activities in Turkish as a foreign language courses (Uzun, 2015; Top, Fidan and Günay, 2015; Melanlıoğlu and Demir Atalay, 2016); the effects of creative writing activities on various dependent variables like academic success, attitude etc. in foreign language teaching (Tok and Kandemir, 2015; Küçükali, 2011; Açıkgöz Karakaş, 2011; Aktaş, 2009); the effects of creative writing activities on biology teaching (Demirbaş, 2005). However, it is not possible to think the studies on this matter are sufficient in the literature. Therefore, it is recommended to increase the experimental and semi experimental studies on the effect of creative writing on other fields of education, and to conduct meta-analysis studies contributing to generalization ability of the results the based on the common influence quantity of these studies.

The research methods like meta-analysis should be used more frequently as it aims to interpret different results obtained from individual studies which use high-level analyses, by compiling the results. Since studies using high-level analyses are lacking in Turkey, especially in the field of educational sciences, it is crucial for researchers to report and share the results of their studies in this context with their colleagues. Additionally, the increase of meta-analysis studies may gradually help the adoption of reporting the necessary statistical information for evaluating the influence quantity in their individual studies.

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