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### The Opinions of Primary School Teachers on their Creative Thinking Skills\*

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ARTICLE INFO	A B S T R A C T
Article History:	<b>Purpose</b> : This study aimed to identify the views of
Received: 22 Feb. 2017	primary school teachers on their creative thinking
Received in revised form: 16 Oct. 2018	skills. The following research questions were
Accepted: 8 Mar. 2019	addressed based on the aim of the study: (1) What are
DOI: 10.14689/ejer.2019.80.2	the primary school teachers' views on their critical
<i>Keywords</i> Productive, innovative, thinking, education, opinion	thinking skills? (2) Do primary school teachers' views on their creative thinking skills differ according to their gender, seniority in the profession, and educational level?
	<b>Research Methods:</b> In sampling distribution, the proportional sampling method was used and 421 classroom teachers took part in the study. The data were obtained through " <i>How Creative Are You</i> ?" scale.
In the analysis process, percentage	and arithmetic means were used as parametric test, while

Man Whitney U and Kruskal Wallis were used as non-parametric tests. **Findings** As a result of the data analysis obtained from the scales which were administered to the primary school teachers, the level of creativity of the primary school teachers were below average. Elementary school teachers' views on their creativity levels were examined based on the variables of gender, professional seniority and educational level. The analyses revealed no statistically significant differences between primary school teachers' views on their creativity levels were examined based on statistically significant differences between primary school teachers' views on their creativity levels.

**Conclusions**: According to the results of the analysis, there was no statistically significant difference among the views on the level of creativity in terms of gender, seniority and educational level.

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<sup>\*</sup> This study is a part of a master's thesis titled "The relationship between classroom teachers 'creative thinking skills and teacher behaviors' contribution to the development of creative thinking skills of students" under the supervision of Prof Dr Ali Rıza ERDEM.

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# Introduction

Thinking is an active, purposive and organized cognitive process that individuals apply to understand the situation that they are in. According to De Bono (1978), thinking is about discovering an experience intentionally with purposes such as understanding, planning, decision making, problem solving, judging and acting. Individuals' learning to think means thinking in different ways. The type of thinking in which individuals feel themselves more comfortable among others is creative thinking. Vernon (1989) defines creativity as the ability to produce a new idea or view on a topic and make an invention. Creativity is not only about revealing a new product, but also synthesizing based on all known information, and then discovering different solutions or thinking the functions of objects in an extraordinary way. For Weisberg (2006), creative thinking is the process in which the creative product comes out. As for Maclure (1991), one of the most important objectives of contemporary education is to improve students' thinking skills. In a study titled "Curricula for Problem Solving and Creative Thinking", Isaksen and Sidney (1985) examined the attitudes, knowledge and behaviors of 152 curriculum developers, and compared traditional learning and creative learning. The results showed that 87% of the participants intentionally planned the development of creative thinking and problem-solving skills. Moreover, 65% produced their own curricula. D. J. Treffinger's model revealed that most of them preferred creative thinking techniques. In their study titled "Creative Potential and Socio-emotional Relationships Beyond Academic Assessment in Preschool Children", Diener, Wright, Brehl and Siyah (2016) focused on social behaviors of children, and examined the connections of creative potential in the preschool period. However, school age did not shed light on childhood. Great duties fall to particularly primary school teachers to develop creative thinking skills in children. Developing children's creativity has an important place among the learning objectives. Teachers need to fully know what creativity is and how it can be developed (Baysal, Carikci & Yasar, 2018; Cellek, 2002; Demirci, 2007; Doganay, 2017; Emir, Ates, Aydin, Bahar, Durmus, Polat & Yaman, 2004; Erktin, 2002; Karatas & Ozcan, 2010; Oncu, 2003; Ozden, 1999; Ozerbas, 2011; Ozgenel & Cetin, 2017; Temizkan, 2011; Tican, 2013; Ucan, Tascı & Ovayolu, 2008; Ulger, 2014; Yildirim & Turk, 2018).

In the Turkish Teaching program, which has been renewed, it is important to enrich vital experience, via a way that lets the analytic and creative thinking improve, as well as to know the historical accumulation and to reach the ways to reproduce it. Reaching the aims in the entrepreneurship perfection and taking initiative, which are among the basic skills in the Turkish Program, include creativity, taking risks, innovation as well as planning and carrying out projects (MNE, 2017).

For primary school teachers, actively using creativity in the classroom is a facilitative factor in teaching children. In this way, children easily build up the knowledge they need to acquire. Teachers play a guiding role in building knowledge. Teachers who have the creative thinking skills try to find different solutions when they encounter a problem instead of avoiding this problem (Aslan &

Cansever, 2009). In this way, primary school teachers also support the development of creative thinking in children while leading to form a more persistent educational environment by using different instructional methods and techniques suitable for every class and topic. With regard to raising creative individuals as targeted in the primary curriculum and developing creative thinking skills in students, this study was needed to identify primary school teachers' levels of the creative thinking skills.

This study aimed to identify views of primary school teachers on their creative thinking skills. The study is thought to provide guidance to teacher training institutions and in-service trainings to teachers. The following research questions were addressed based on the aim of the study: (1) What are the primary school teachers' views on their creative thinking skills?, (2) Do primary school teachers' views on their creative thinking skills differ according to their gender, seniority in the profession, and educational level?

### Method

#### Research Design

This study focusing on creative thinking skills based on primary school teachers' views was a descriptive one adopting a survey model. According to Karasar (2007, p. 77), the screening model is an approach used to describe a fact of the past and the present without changing it. Indeed, such a study attempts to define a fact, person, or object of research in its own condition. The subject is not exposed to any change or effect.

### Participants

The population of the study consisted of primary school teachers (Grades 1, 2, 3 and 4) working in primary schools in Merkezefendi and Pamukkale districts of Denizli province in the 2015-2016 school-year. Since it was not possible to reach the whole population, a sample was selected to represent this population. This sample was selected based on the significance level of 0.5. The lower limit in the necessary sample was calculated as 306 with ±5% sampling error at the confidence interval of 95%. "*Proportional cluster sampling*" method was used, and 421 primary school teachers were selected as the sample. Within the sample, 65.1% of the individuals were male, and 39.9% were female. As for seniority in the profession, 25.4% had 1-10 years of experience, 37.5% had 11-20 years, and 37.1% had 21 years of experience and above. Regarding educational level, 77.9% of the participants graduated from an education faculty, while 22.1% of them graduated from other teacher training institutions such as a teacher's training school or a faculty of science and humanities.

### Data Collection and Application

In the data gathering process, the scale "How Creative Are You?" was used. This test was developed by Eugene Raudsepp, and translated into Turkish by Sabire Coban based on the original form. The validity and reliability statistics of the test

were also calculated by Sabire Coban, and the Cronbach's Alpha coefficient was found as 0.95 for creativity (Coban, 1999). The data obtained through the "*How Creative Are You*?" scale were coded as "(5) *Strongly Disagree*", "(4) *Disagree*", "(3) *Neutral*", "(2) *Agree*" and "(1) *Strongly Agree*". The answer options that were discontinuous were turned into "continuous" to be able to interpret the results yielded in statistical procedures. The interval of four in the scale "*How Creative Are You*?" was divided into five options (4:5=0.80), the resulting value was added to the lowest number representing the options, and the results were interpreted as not creative for 1.00 - 1.80, creativity level being below the average for 1.81 - 2.60, moderate creativity level for 2.61 - 3.40, creativity level being above the average for 3.41 - 4.20, and high creativity level for 4.21-5.00.

Validity refers to the suitability of an instrument for its purpose of employment. As for reliability, it is the extent to which an instrument measures the data accurately. The most important criterion that determines the quality of scientific works is the validity and reliability of the instruments used (Uzgoren, 2012). The validity and reliability studies of the scale "How Creative Are You?" were conducted by Sabire Coban to be used in her doctoral dissertation, and the Cronbach's Alpha coefficient was 0.95 for creativity (Coban, 1999). In addition, the scale was administered to 421 teachers, and the reliability analyses were conducted again. Its Cronbach's Alpha coefficient was found as 0.88. Accordingly, it can be argued that the scale was valid and reliable.

#### Data Analysis

Kolmogorov- Smirnov test was used to determine whether the data distribution was normal. According to the results of scale, data obtained through "*How Creative Are You*?" did not show normal distribution (K-s)-z =1,538 p=0.018). In the analysis process, percentage and arithmetic mean were used as parametric tests, while Mann Whitney U and Kruskal Wallis were used as non-parametric tests.

# Results

This section presents the findings revealed through the analysis of the data to answer the research problems.

## Findings for the First Research Question and Interpretations

The first research question addressed in the study was "What are the primary school teachers' views on their creative thinking skills?".

## Table 1

Primary School Teachers' Views on Their Creative Thinking Skills

Ν	Minimum Maximum		x	SD	
421	1,00	4,60	2,4533	0,58966	

As is seen in Table 1, the results showed that the primary school teachers' creative thinking levels were below the average (x=2.45). This overlaps with the findings of other studies. In a study titled "*Creativity, professional burnout and life satisfaction in primary school teachers*", Sahin (2010) reported that 80.6% of the participants' creativity levels were identified as not creative, 16.6% were as moderately creative, 2.5% were as creative above the moderate level, and 0.2% of them were identified as creative.

### Findings for the Second Research Question and Interpretations

The second research question of the study was "Do primary school teachers' views on their creative thinking skills differ according to their (a) gender, (b) seniority in the profession, and (c) educational level?".

### Table 2

Results of the Mann-Whitney Test for Primary School Teachers' Views on Their Creative Thinking Skills according to Gender

Gender	Ν	x	и	р	Difference
Female	274	216,17			
Male	147	201,37	1.872	0.234	Not Significant
Total	421				Significant

p>0.05

As can be seen in Table 2, the results revealed no statistically significant difference between creative thinking skills based on the primary school teachers' views. This is consistent with the findings of other studies. In a study titled "Examining the relationship between preschool teaching students' creativity and problem solving levels", Zeytun (2010) did not reveal any statistically significant difference according to gender. In another study titled "Examining the relationship between teachers' adjustment in marriage and their creativity", Gulererli (2014) did not find a significant difference between the arithmetic means of the groups as a result of the independent samples t-test performed to determine whether there was a significant difference in the teachers' scores of the creativity scale according to the gender variable. However, there are also research findings that contradict with the findings of the current study. In a study titled "The relationship between primary school teachers' creativity and organizational commitment", Altin (2010) reported that the teachers' perceptions of their creativity levels were different according to their gender, and this difference was in favor of the female teachers. With regard to the mean scores of creativity levels, the female teachers perceived themselves more creative compared to the male teachers.

# Table 3

Results of the Kruskal-Wallis Test for Primary School Teachers' Views on Their Creative Thinking Skills according to Seniority in the Profession

Seniority	Ν	$\frac{1}{x}$	Κ	Р	Difference
1-10 years	107	218,94			
11-20 years	158	202,18	1.414	0.493	Not
21+ years	156	214,48			Significant
Total	421				

As is seen in Table 3, when the primary school teachers' views of their creative thinking skills were examined according to the seniority variable through the Kruskal-Wallis Test, no statistically significant difference was found between their creativity levels. This is consistent with the findings of other studies. In a study titled "*Creativity, Professional Burnout and Life Satisfaction in Primary School Teachers*", Sahin (2010) revealed a significant difference in one-way ANOVA performed to determine whether there was a difference between the participants' creativity levels according to their seniority.

# Table 4

Results of the Mann-Whitney Test for Primary School Teachers' Views on Their Creative Thinking Skills according to Level of Education?

Educational Level	п	$\overline{x}$	и	Р	Difference
Faculty of Education	328	210,86	_		
Other (e.g. Teacher's Training School, Faculty of Letters)	93	211,49	1.521	0.965	Not Significant

p> 0.05

As is seen in Table 4, primary school teachers' creative thinking skills did not show a significant difference according to their educational level. However, there are research findings that contradict with this finding of the current study. In a study titled "*The relationship between primary school teachers' organizational commitment and creativity*", Altin (2010) reported that the teachers' creativity levels differed according to their undergraduate education, and this difference was in favor of those graduated from an education faculty (t=3.08, p<.05). When the mean scores regarding the creativity levels were examined, it was seen that the teachers who graduated from an education faculty perceived themselves more creative compared to those graduated from other faculties.

#### **Discussion, Conclusion and Recommendations**

The results of the analyses on the first research question "*What are the primary school teachers' views on their creative thinking skills* " showed that primary school teachers' creative thinking levels were below the average (x=2,45). In a study titled "*Creativity, professional burnout and life satisfaction in primary school teachers*", Sahin (2010) reported that 80.6% of the participants' creativity levels were identified as not creative, 16.6% were as moderately creative, 2.5% were as creative above the moderate level, and 0.2% of them were identified as creative. The result of this study is consistent with the current study, which brings up the question why teachers' creativity is low.

According to the results of the analyses regarding the second research question "Do primary school teachers' views on creative thinking skills differ according to their (a) gender, (b) seniority in the profession, and (c) educational level?";

There was no statistically significant difference between creative thinking skills based on the primary school teachers' views. This is consistent with the findings of other studies. In a study titled "Examining the relationship between preschool teaching student's' creativity and problem solving levels", Zeytun (2010) did not reveal any statistically significant difference according to gender. In another study titled "Examining the relationship between teachers' adjustment in marriage and their creativity", Gulererli (2014) did not find a significant difference between the arithmetic means of the groups as a result of the independent samples t-test performed to determine whether there was a significant difference in teachers' scores in the creativity scale according to the gender variable. However, there are also research findings that contradict with the findings of the current study. In a study titled "The relationship between primary school teachers' creativity and organizational commitment", Altin (2010) reported that the teachers' perceptions of their creativity levels were different according to gender, and this difference was in favor of the female teachers. With regard to the mean scores of creativity levels, female teachers perceived themselves more creative compared to male teachers.

There was no significant difference between the primary school teachers' creativity levels according to the seniority variable. This is consistent with the findings of other studies. In a study titled "*Creativity, professional burnout and life satisfaction in primary school teachers*", Sahin (2010) revealed a significant difference in the one-way ANOVA performed to determine whether there was a difference between the participants' creativity levels according to their seniority in the profession.

There was no statistically significant difference between primary school teachers' creative thinking skills based on their level of education. However, there are also research findings that contradict with the findings of the current study. In a study titled "*The relationship between primary school teachers' organizational commitment and creativity*", Altin (2010) reported that teachers' creativity levels differed according to their undergraduate education, and this difference was in favor of those graduated

from an education faculty (t=3.08, p<.05). When the mean scores regarding the creativity levels were examined, it was seen that the teachers who graduated from an education faculty perceived themselves more creative compared to those graduated from other faculties.

As a result of the analyses based on the data gathered through the scale, primary school teachers' creativity level was found to be below the average. Elementary school teachers' creativity levels being below the average can be interpreted as that they do not use their creativity fully or could not use it. Primary school teachers can be enabled to improve their creativity through pre-service and in-service trainings. This is particularly important for them to teach "*creative thinking skills*" to primary school students. Elementary school teachers' views on their creativity levels were examined according to the variables of gender, professional seniority and educational level. The analyses revealed no statistically significant differences between primary school teachers' views on their creativity levels according to their gender, professional seniority and educational level.

The following suggestions can be offered based on the research findings: (1) According to the results of the analyses regarding the research question "*What are the primary school teachers' views on their creative thinking skills* ", primary school teachers' creativity levels were below the average. For this reason, primary school teachers should be exposed to seminars to develop their creativity levels. (2) Considering that primary school teachers' creativity levels are low, studies can be conducted to reveal why their creativity levels are low, and how this can be improved.

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### Yaratıcı Düşünme Becerileri Hakkında Sınıf Öğretmenlerinin Görüşleri

# Atıf:

Erdem, A. R., & Adiguzel, D. C. (2019). The opinions of primary school teachers on their creative thinking skills. *Eurasian Journal of Educational Research*, 80, 25-38, DOI: 10.14689/ejer.2019.80.2

# Özet

Problem Durumu: Yaratıcı düşünme süreci dinamik, üretici ve özgürdür. Problemlere her açıdan bakabilmek ve farklı çözüm yolları bulabilmek gerekir. Çevresine yaratıcı gözlerle bakabilmeli, tüm kaynakların farkına varabilmeli ve gerektiğinde yararlanabilmelidir. "Yaratıcılık" bugüne kadar birçok yazar tarafından farklı yönleri vurgulanarak ele alınmış, çok yönlü bir kavram olarak algılanmış ve tanımlanmıştır. Örneğin bazı yazarlar düşünme süreçleri üzerinde dururken, bazı yazarlar ortaya çıkan ürüne odaklanmışlardır. Kimi yazarlar ise yaratıcı kişiliğin sahip olduğu özelliklere vurgu yapmışlardır. Farklı görüş ve bakış açılarına karşın fikir birliğine varılan nokta; yeni bir ürünün ortaya çıkış sürecidir. Yaratıcılık; sadece yeni bir ürün ortaya koymak değil, bilinen tüm bilgilerden sentez yapabilme ve sonrasında farklı çözüm yollarını keşfedebilme ya da nesnelerin işlevlerini alışılmışın dışında düşünebilmektir. Yaratıcı düşünme, problemlere eleştirel açıdan bakabilmek, daha önce aralarında ilişki kurulmamış nesneler yâda düşünceler arasında ilişki kurabilmek ve yeni önermeler de bulunmaktır. Alışılmışın dışında, özgün, farklı çözüm yollarından giderek yeni sonuçlar geliştirebilmektir. Maclure'e (1991) göre çağdaş eğitimin en önemli hedeflerinden biri öğrencilerin düşünme becerilerini geliştirmektir. Öğrencilerde yaratıcı düşünme becerisini geliştirebilmek için özellikle sınıf öğretmenlerine çok büyük görevler düşmektedir.

Sınıf öğretmeni için sınıf ortamında yaratıcılığı aktif olarak kullanmak, çocuğa öğretilmek isteneni kolaylaştırıcı bir etkendir. Öğrenciler bu yolla öğrenmesi gereken bilgiyi kolaylıkla inşa edebilmektedirler. Öğretmen bilginin inşa edilme aşamasında yönlendirici rol üstlenir. Yaratıcı düşünme becerisine sahip bir öğretmen bir sorun ile karşı karşıya kaldığı zaman bu sorundan kaçmak yerine o soruna farklı çözümler bulmaya çalışır (Aslan, Cansever, 2009). Sınıf öğretmeni her derste her konuya uygun farklı öğretim yöntem tekniklerini kullanarak daha kalıcı bir eğitim ortamının oluşmasına öncülük etmesinin yanı sıra öğrencilerde de yaratıcı düşünmenin gelişimine destek sağlamış olur. İlköğretim programının hedeflediği yaratıcı bireylerin yetişebilmesi için, öğrencilerde yaratıcı düşünme becerisi geliştirilebilmesi

için sınıf öğretmenlerinin yaratıcı düşünme beceri düzeyleri belirlemek amacıyla bu araştırmanın yapılmasına gerek duyulmuştur.

*Araştırmanın Amacı*: Bu araştırmanın amacı ilkokullarda görev yapan sınıf öğretmenlerinin yaratıcı düşünme becerileri hakkındaki görüşlerini belirlemektir. Araştırmanın amacı doğrultusunda alt problemler şu şekilde belirlenmiştir: (1) Sınıf öğretmenlerinin görüşlerine göre yaratıcı düşünme becerileri nedir? (2)Sınıf öğretmenlerinin görüşlerine göre yaratıcı düşünme becerileri cinsiyete, meslekteki kıdeme, eğitim durumuna göre farklılık göstermekte midir?

Araştırmanın Yöntemi: Sınıf öğretmenlerinin görüşlerine göre yaratıcı düşünme becerilerini belirlemeye yönelik yapılan bu araştırma tarama modelinde betimsel bir çalışmadır. Araştırmanın evrenini, 2015-2016 eğitim-öğretim yılında Denizli ili, Merkezefendi ve Pamukkale ilçelerinde görev yapmakta olan ilkokullardaki sınıf öğretmenleri (1, 2, 3, 4. Sınıf öğretmenleri) oluşturmaktadır. Örneklem almada "oranlı küme örnekleme" yöntemi kullanılarak 421 sınıf öğretmeni örnekleme alınmıştır. Veriler "Ne kadar yaratıcısınız?" ölçeği ile toplanmıştır. Verilerin çözümlenmesinde SPSS paket programı kullanılmıştır. "Ne kadar yaratıcısınız?" ölçeği ile elde edilen veriler kesinlikle katılmıyorum seçeneği 5, katılıyorum seçeneği 4, kararsızım seçeneği 3, katılıyorum seçeneği 2, kesinlikle katılıyorum seçeneği 1 olarak kodlanmıştır. "Ne kadar yaratıcısınız?" ölçeğindeki 4 aralık 5 seçeneğe bölünmüş (4: 5 = 0.80); bulunan sayı seçenekleri temsil eden en alt sayıdan itibaren ilave edilerek: 1.00 - 1.80 yaratıcı değil, 1.81 - 2.60 yaratıcılık düzeyi ortalamanın altında, 2.61 - 3.40 yaratıcılık düzeyi orta, 3.41 - 4.20 yaratıcılık düzeyi ortalamanın üstünde, 4.21-5.00 yaratıcılık düzeyi yüksek şeklinde yorumlanmıştır. Cronbach alpha iç tutarlık katsayısı "Ne kadar yaratıcısınız?" ölçeği için 0.88 bulunmuştur. Dağılımın normal olup olmadığını belirlemek için Kolmogorov Simirnov testi uygulanmıştır. "Ne kadar yaratıcısınız?" ölçeği ile elde edilen sonuçlara (K-s)-z =1,538 p=0.018) göre verilerin normal dağılım göstermediği belirlenmiştir. Çözümlemelerde de parametrik testlerden yüzde, aritmetik ortalama; non-parametrik testlerden ise Man Whitney U ve Kruskal Wallis kullanılmıştır.

*Araştırma Bulguları:* Sınıf öğretmenlerine uygulanan ölçekten elde edilen verilerin analizi sonucunda sınıf öğretmenlerinin yaratıcılık düzeyi ortalamanın altında çıkmıştır. Sınıf öğretmenlerinin görüşlerine göre yaratıcılık düzeyi cinsiyet, mesleki kıdem ve mezuniyet durumu değişkenleri açısından da incelenmiştir. Yapılan analiz sonuçlarına göre sınıf öğretmenlerinin yaratıcılık düzeylerine ilişkin görüşleri arasında cinsiyet, mesleki kıdem ve mezuniyet durumu değişkenleri açısından anlamlı bir farklılık yoktur.

*Araştırmanın Sonuçları ve Önerileri:* Sınıf öğretmenlerine uygulanan ölçekten elde edilen verilerin analizi sonucunda sınıf öğretmenlerinin yaratıcılık düzeyi ortalamanın altında çıkmıştır. Sınıf öğretmenlerinin görüşlerine göre sınıf öğretmenlerinin yaratıcılık düzeylerinin ortalamanın altında çıkması, sınıf öğretmenlerinin yaratıcıklarını tam anlamıyla kullanmadıkları veya kullanamadıkları şeklinde yorumlanabilir. Sınıf öğretmenlerinin yaratıcılık düzeylerine ilişkin görüşleri arasında cinsiyet, mesleki kıdem ve mezuniyet durumu değişkenleri açısından anlamlı bir farklılık yoktur. Araştırma bulgularına dayanılarak şunlar önerilebilir: (1) "Sınıf öğretmenlerinin görüşlerine göre yaratıcı düşünme becerileri nedir?" analiz sonuçlarına göre Sınıf öğretmenlerinin yaratıcılık düzeyleri ortalamanın altında çıkmıştır. Bu nedenle; Sınıf öğretmenleri yaratıcılık düzeylerinin geliştirilmesi konusunda seminerlere tabii tutulmalıdır. (2) Sınıf Öğretmenlerinin yaratıcılık düzeylerinin düşük olduğu sonucu göz önünde bulundurularak Sınıf öğretmenlerinin yaratıcılık düzeylerinin neden düşük olduğu ve nasıl yükseltilebileceği ile ilgili çalışmalar yapılabilir.

Anahtar Sözcükler: Üretken, yenilikçi, düşünme biçimi, eğitim, görüş.