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## İÇİNDEKİLER

**NESİBE AYDIN EDUCATION INSTITUTIONS**

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**CONTENTS**

**Editörden**

Nesibe Aydın Eğitim Kurumları tarafından yayımlanan *Eğitim ve Gelecek Dergisi*, 2012 yılında başladığı yayın hayatında beşinci yılını başarıyla tamamlamıştır. Bu süreçte ulusal ve uluslararası pek çok saygın veritabanı tarafından erişilebilen dergimize olan ilgi her geçen gün daha da artmaktadır. Dergimizin yeni bir başarısı ise, **Emerging Sources Citation Index (ESCI)** tarafından da dizinlenmeye başlamış olmasıdır.

Dergimizin on birinci sayısında yer alan çalışmaları siz değerli okurlarımıza sunuyoruz.

**Adile Gülşah Saranlı** tarafından hazırlanan ***"Türkiye'deki Üstün Yetenekli Çocukların Ailelerinin Başa Çıkma Yöntemleri ve Destek Sistemleri Araştırması"*** başlıklı çalışmada belirtilen sonuçların, üstün yetenekli çocukların ailelerine, eğitimci ve araştırmacılara üstün yetenekli çocukların ailelerinin kullandıkları farklı destek sistemlerini ve başa çıkma yöntemlerini açığa çıkarmada önemli bilgiler sağlayacağı düşünülmektedir.

Çocukların mutlu olmasını sağlayan kaynaklardan biri, yaşamlarındaki her yaş döneminde yer alması gereken resimli öykü kitaplarıdır. **Ayşegül Ergül** tarafından hazırlanan ***"Çocuklar için Yazılmış Resimli Öykü Kitaplarında Yer Alan Mizahi Ögelerin İncelenmesi"*** başlıklı çalışmada, üç-altı yaş çocuklar için yazılmış resimli öykü kitaplarının iç ve dış yapı özelliklerinde yer alan mizahi ögelerin belirlenmesi ve incelenmesi amaçlanmıştır. İnceleme kapsamına alınan öykü kitapları; kapak, görseller, öykü, metin-diyaloglar ve kahramanların özellikleri gibi başlıklarda mizahi ögeleri içermesi bakımından değerlendirilmiştir.

**Metehan Buldu ve Feyza Tantekin Erden** tarafından hazırlanan ***"Okul Öncesi Öğretmenlerinin Değerlendirmeye Yönelik Görüş ve Uygulamalarının İncelenmesi"*** başlıklı çalışmanın sonucunda, okul öncesi öğretmenlerinin değerlendirmeye yönelik görüşleri ile sınıf içerisindeki değerlendirme uygulamaları arasında bir bağ olduğu, öğretmenlerin eğitim düzeylerindeki yüksekliğin ise gerçekleştirdikleri uygulamalarda fark yarattığı tespit edilmiştir.

**Mehmet Gültekin** tarafından hazırlanan ***"İlköğretim Öğretmenlerinin Eğitim Programı Kavramına Yönelik Metaforik Algıları"*** başlıklı çalışmada, Eskişehir ilindeki 16 ilköğretim okulunda görev yapan 200 ilköğretim öğretmenine ulaşılmıştır. İlköğretim öğretmenlerinin eğitim programlarına ilişkin olarak 200 metafor ürettikleri görülmüştür.

**Nihal Tunca** tarafından hazırlanan ***"İlköğretim Öğretmenlerinin Mesleki Değerler Açısından Değerlendirilmesi"*** başlıklı çalışmada öğretmenlerin; mesleki değerlere sahip olma konusunda kendilerini yüksek düzeyde algıladıkları, kendilerini görece en yetersiz gördükleri alt boyutun "Şiddete karşı olma", en yeterli gördükleri alt boyutun ise "Farklılıklara saygı duyma" olduğu belirlenmiştir.

**Meltem Gökdağ Baltaoğlu, Hale Sucuoğlu ve Namık Öztürk** tarafından hazırlanan ***"Sınıf Öğretmenlerinin Ev Ödevlerine İlişkin Görüşleri"*** başlıklı çalışmada öğretmenler; ödevlerin öğrencilerin öğrendiklerini pekiştirmesi, tekrar etmesi açısından gerekli olduğu,

öğrenciye sorumluluk duygusu kazandırdığı ancak sayfalarca ve amaçsız verilen ödevlerin öğrenciyi yıldırarak başarısızlık duygusu yaşamasına, okuldan soğumasına hatta kendisine saygısının azalmasına kadar götürebileceğini belirtmişlerdir.

**Tuğra Karademir, Funda Erdoğdu ve Şahin Gökçearslan** tarafından hazırlanan ***"Bir Taşla İki Kuş: Web 2.0 Kullanarak Akran Etkileşimi Yoluyla Teknoloji Algılarını Artırma"*** başlıklı çalışmada, Web 2.0 araçlarından Vikipedi, Facebook ve Ağ Günlüklerinin kullanıldığı öğrenme çevresinde öğretmen adaylarının teknoloji algılarındaki değişimin belirlenmesi amaçlanmıştır.

Günümüzde, bireyler ürünleri kendi istekleri doğrultusunda kullanmak istedikleri için, 'kendin yap' akımı yaygınlaşmaya başlamış ve teknolojinin sağladığı olanaklar sonucunda buluş kültürü doğmuştur. **Selçuk Özdemir, Ekmel Çetin, Ahmet Çelik, Burcu Berikan ve Akça Okan Yüksel** tarafından hazırlanan ***"Yeni Nesillere Kendi Gelceklerini İnşa Etme Amacıyla Üretim Odaklı Bilişim Teknolojileri Becerilerinin Kazandırılması"*** başlıklı çalışmada, 3 boyutlu tasarımlara ilişkin uygulamalar yapmak ve çocukların 3 boyutlu tasarım ve üretim aktivitelerinden sonra bu süreçlere ilişkin farkındalık kazanıp kazanmadıklarını görebilmek için onların bilişimle üretim konusundaki güncel görüşlerini ortaya çıkarmak amaçlanmıştır.

**Hakan Sarıçam, İsmail Çelik ve Halis Sakız** tarafından hazırlanan ***"Ergenlerde Eğitim Stresi ve Okul Tükenmişliği Arasındaki İlişkide Üstbilişsel Farkındalığın Aracı Rolü"*** başlıklı çalışma Ağrı ilinde ortaokula devam eden 7. ve 8. sınıflardan seçilmiş 303 öğrenci ile gerçekleştirilmiştir. Çalışmanın sonucunda; üstbiliş, eğitim stresi ve okul tükenmişliği arasında önemli ilişkilerin olduğu, üstbilişsel farkındalığın eğitim stresi ve okul tükenmişliği arasında aracı role sahip olduğu ve eğitim stresinin okul tükenmişliğinin güçlü bir yordayıcısı olduğu tespit edilmiştir.

**Pınar Kızılhan** tarafından hazırlanan ***"Okullarda Erdem Öğretimi: Niçin? ve Nasıl?"*** başlıklı çalışmada, öğrencilerinin, özgünlük, özerklik, kendini gerçekleştirme gibi kişisel mutluluklarını öne çıkarmayı amaçlayan öğretmenlere yönelik uygulamaların nasıl olması gerektiğini açıklayan erekbilimsel ahlak kavramsallaştırmaları analiz edilmeye çalışılmıştır.

**Ömür Munzur** tarafından hazırlanan ***"Sanatsal ve Tıbbi Açıdan Ses Eğitiminin Önemi"*** başlıklı çalışmada, ses eğitiminin sanatsal ve tıbbi açıdan neden gerekli olduğu bilimsel veriler eşliğinde sunulmuştur.

*Eğitim ve Gelecek Dergisi* olarak gösterdiğiniz ilgi ve değerli katkılarınız için teşekkür ediyorum.

Gelecek sayıda buluşmak üzere…

**Prof. Dr. Erten GÖKÇE**

**Eğitim ve Gelecek Dergisi Baş Editörü**

**Editorial**

*Journal of Education and Future* (JEF) published by Nesibe Aydın Education Institutions, has successfully completed its fifth year in publishing life which was started in 2012. In this process, the interest in JEF which is accessible by national and international reputable databases, is increasing day by day. A new success of JEF is that JEF has also started to be indexed by **Emerging Sources Citation Index (ESCI)**.

We present the studies in the eleventh issue of JEF to our valuable readers.

The results of the article titled ***"Research on Coping Methods and Support Systems of Parents of Gifted Children in Turkey"***, which is prepared by **Adile Gülşah Saranlı**, are expected to provide valuable information that will help families of gifted children, educators and researchers by revealing different support systems and coping methods that parents of gifted children have been able to use successfully in Turkey.

In the article titled ***"Analysis of Humor Elements in Illustrated Story Books for Children"***, which is prepared by **Ayşegül Ergül**, it is aimed to identify and examine humor elements in internal and external structure of illustrated story books for children aged between three to six. For this purpose, it's investigated in selected story books whether humor elements were used in book cover, pictures, texts-dialogues and characters.

The article titled ***"An Investigation of Turkish Early Childhood Teachers' Self-Reported Beliefs and Practices Regarding Assessment"***, which is prepared by **Metehan Buldu and Feyza Tantekin Erden**, revealed that the early childhood education teachers' beliefs were correlated with their classroom practices which means early childhood teachers practice what they believe in terms of developmentally appropriate practices.

The article titled ***"Metaphoric Perceptions of Primary School Teachers on the Concept of Curriculum"***, which is prepared by **Mehmet Gültekin**, was conducted with the participation of 200 primary school teachers from 16 primary schools in Eskişehir. In the results of the study, it's been seen that teachers created 200 metaphors.

In the article titled ***"Evaluation of Elementary School Teachers in terms of Professional Values"***, which is prepared by **Nihal Tunca**, it was found that the teachers' perceptions of their possession of professional values are high. On the other hand, the sub-dimensions in which the teachers see themselves the least adequate in comparison to the other sub-dimensions is "Being against violence" and the most adequate is "Respect for diversity".

In the article titled ***"Classroom Teachers' Opinions about Homeworks"***, which is prepared by **Meltem Gökdağ Baltaoğlu, Hale Sucuoğlu and Namık Öztürk**, it was seen that teachers were of the opinion that homework was necessary for students to repeat and reinforce their learnings, and to gain a sense a responsibility. Yet they have also pointed out that excessively and pointlessly given homework frustrates students, makes them feel unsuccessful, alienates them from school and even decreases their self-esteem.

In the article titled ***"Two Birds with One Stone: Enhancing Technology Perception with Peer Interaction using Web 2.0"***, which is prepared by **Tuğra Karademir, Funda Erdoğdu and Şahin Gökçearslan**, it is aimed to determine the change of technology perceptions of pre-service teachers studying in learning environments created by using Web 2.0 tools which were Wikipedia, Facebook and blogs.

Today, because individuals want to use products by their own pleasure and wishes, "do it yourself" movement has started to become common and as a result of the facilities of technology, the culture of creation was born. In the article titled ***"Furnushing New Generations with Productive ICT Skills to Make Them the Maker of Their Own Future"***, which is prepared by **Selçuk Özdemir, Ekmel Çetin, Ahmet Çelik, Burcu Berikan and Akça Okan Yüksel**, it is aimed to find out children's current views on production, to make implementations regarding 3D designs and to discover whether there is awareness in children's ideas regarding production after the 3D design and production activities.

The article titled ***"Mediator Role of Metacognitive Awareness in the Relationship between Educational Stress and School Burnout among Adolescents"***, which is prepared by **Hakan Sarıçam, İsmail Çelik and Halis Sakız**, was conducted with 303 students selected from 7th, and 8th grade students who were at 13, 14 and 15 years old at middle schools in Ağrı, Turkey. In the results of the study it was found that there are significant correlations between metacognition, educational stress and school burnout, metacognition is a mediator in relationship between educational stress and school burnout, and educational stress was strongest predictor of school burnout.

In the article titled ***"Teaching Virtue at Schools: Why? and How?"***, which is prepared by **Pınar Kızılhan**, it has been tried to analyze the teleological ethical moral conceptualizations that explain the method for practices oriented for the teachers, who aims at putting forward the personal happiness of their students, such as authenticity, autonomy, and self-realization.

The article titled ***"The Artistic and Medical Importance of Vocal Training"***, which is prepared by **Ömür Munzur**, presents the reasons that why the vocal training is necessary for both the artistic and medical perspectives**.**

*Thanks for your interest and valuable contributions for Journal of Education and Future.*

Look forward to meeting in the next issue…

**Prof. Dr. Erten GÖKÇE**

***Editor in Chief of***

***Journal of Education and Future***

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# Research on Coping Methods and Support Systems of Parents of Gifted Children in Turkey*

**Adile Gülşah Saranlı****

## Abstract

Family members have a critically important role in gifted children's lives, providing lifelong support and striving to help them achieve their true potential. Nevertheless, in developing countries about gifted education, feedback from families of gifted children always focus on negativities, obstacles and problems. There has been very little research studies on positive experiences for the families of gifted children in Turkey, including how they have been able to support their children and solve their problems within the constraints of our culture and environment. However, finding out about and sharing different support systems and problem-solving methods used by parents who have been able to positively cope with numerous attributes associated with gifted children and who believe they have been able to provide correct guidance will enlighten other families as well as educators and will help us better understand problems and solutions that are specific to this special group of children. To this end, in-depth interviews with parents of four officially identified gifted children in middle and high school ages were conducted using a semi-structured interview method. Answers from parents were classified and organized within a thematic framework according to predetermined themes using the descriptive analysis method from among applicable qualitative data analysis methods. Answers from these interviews were categorized under main themes such as coping skills, sources of social support and relationships with the environment. Themes that were extracted from the interviews with the parents were defined based on the "Ecological Family Theory". Results from this study are expected to provide valuable information that will help families of gifted children, educators and researchers by revealing different support systems and coping methods that parents of gifted children have been able to use successfully in Turkey.

***Keywords:*** families of gifted children, social support systems, coping methods, relationships with the environment

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* Some part of this study was presented as a conference presentation at *"International Conference on Talent Development and Excellence (ICTDE 2013)"* held at Antalya, Turkey.

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# Türkiye'deki Üstün Yetenekli Çocukların Ailelerinin Başa Çıkma Yöntemleri ve Destek Sistemleri Araştırması

## Öz

Aileler her zaman için üstün yetenekli çocuklarının ömür boyu yanında olan ve onların potansiyellerini ortaya çıkarmak için çaba sarf eden en önemli kişilerdir. Bununla birlikte üstün yeteneklilerin eğitimi yönünden gelişmekte olan ülkelerde genellikle ailelerden duyulanlar hep olumsuzluklar, engellenmişlikler ve sorunlardır. Türkiye koşullarında üstün yetenekli çocukların ailelerinin yaşadıkları olumlu deneyimler ve bu kültür özelinde çocuklarını nasıl destekledikleri ya da sorunlarını nasıl çözdükleri ise şu ana kadar üzerinde çalışılmamış bir konudur. Hâlbuki çocuklarının üstün yetenekli olmasının getirdiği farklılıklarla olumlu şekilde başa çıkabilmiş ve çocuklarını doğru yönlendirebildiklerine inanan ailelerin hangi destek sistemlerini veya sorun çözme yollarını kullandıklarını öğrenebilmek ve bunu başkalarıyla paylaşmak, aile ve eğitimcilere ışık tutacak ve bu özel gruba has sorunları ve çözümleri anlamamızı kolaylaştıracaktır. Bu amaca ulaşabilmek için resmi olarak tanılanmış ortaokul ve lise düzeyindeki 4 üstün yetenekli çocuğun ailesiyle yarı yapılandırılmış görüşme yöntemi kullanılarak derinlemesine mülakatlar yapılmıştır. Nitel veri analizi yöntemlerinden betimsel analiz yöntemi kullanılarak önceden belirlenen temalara göre ailelerin verdikleri cevaplar tematik çerçeveye göre sınıflandırılmıştır. Bu çözümlemeler sırasında verilen cevaplar; "başa çıkma becerileri", "sosyal destek kaynakları" ve "çevre ile ilişkiler" olarak üç alt tema altında toplanmıştır. Ailelerle yapılan görüşmelerde ortaya çıkan temaların tanımlanmasında "Aile Ekolojisi Kuramı"ndan yararlanılmıştır. Bu araştırmada ortaya çıkan sonuçların; üstün yetenekli çocukların ailelerinin kullandıkları farklı destek sistemlerini ve başa çıkma yöntemlerini açığa çıkarma konusunda üstün yetenekli çocukların ailelerine, eğitimci ve araştırmacılara yardımcı olacak önemli bilgiler sağlayacağı düşünülmektedir.

***Anahtar Sözcükler:*** üstün yetenekli çocukların aileleri, sosyal destek sistemleri, başa çıkma yöntemleri, çevre ilişkileri

## Introduction

Families have always been the most important people in gifted children's lives, continually providing support and seeking to help them reach their true potential. Nevertheless, in developing countries, feedback from parents of gifted children almost always focus on negativities, obstacles and problems. There has been no research studies on the positive experiences for parents of gifted children, analyzing ways in which they provide support for their children and methods they use for solving their problems and issues in Turkey's environment and cultural conditions. However, it would be very valuable and enlightening for parents and educators in understanding problems and solutions specific to this group of children to find out about and share which support systems or coping skills have been adopted by parents who have been able to cope with many differences particular to gifted children and who believe that they have been able to provide correct guidance for their children. To this end, through interviews with parents of gifted children, this research aims to provide answers to questions related to different types of resources used by these parents in raising their children, difficulties they have encountered and specific solutions they have adopted, as well as which ways they have been able to develop themselves in response to the giftedness in their children.

Parenthood is among the most difficult tasks for each one of us, encompassing a great many responsibilities in different areas. Parenting gifted children is no exception, but also involves many differences and additional difficulties. First and foremost, to ensure the happiness and proper raising of gifted children and subsequently to enable them to successfully develop their talents for the benefit of their parents, their environment and themselves, parents need to receive substantial support on issues related to the identification of giftedness, being able to understand their differences and providing adequate support for their gifted children. Parents supported in this fashion will be able to help themselves, their children as well as their society (Akarsu, 2001; Metin, 1999; DeVries & Webb, 2007).

The structure of families of gifted children exhibit differences from those of normally developing children. Parents of gifted children feel isolated and alone (Porter, 2005). It has been found that families of gifted children are generally with two parents, with both the father and mother older than average and with at least college level education (Olszewski, Kulieke & Buescher, 1987).

Other researchers have observed these families to be capable of maintaining an orderly family structure, remaining consistent in the face of difficulties in life and as being generally connected to each other within the family. Results from studies investigating parents with different ages and education levels, as well as different numbers of siblings for their children found that WISC-R intelligence scores for children in the sample show statistically significant differences with respect to the ages of their parents (Bildiren, Erdik & Çimşitoğlu, 2009). Another research study investigating family structures for gifted children attending Science and Art Centers

(BILSEM) in Turkey found a correlation between points quantifying the internal unity of the family and the points quantifying supervision (Ataman, 2008).

One of the primary differences of families of gifted children has been identified as their strong attachment to some of their family values. They seem to value concepts such as being successful, winning and being consistent more than other families. They have also been found to be prone to exhibiting perfectionist traits (Enright & Ruzicka, 1989).

It has been observed that families with gifted children generally have lives that are centered around the child, impose high standards for education and success both for themselves and their children, adopt traditional values, strictly follow rules, value intellectual and cultural activities and adopt supportive interactions within the family (Bloom, 1985; Friedman, 1994).

Steinberg, Lamborn, Dornbusch and Darling (1992) found that families of gifted children often exhibit an authoritarian parental style, but also show warm, close and accepting behaviors. In this research, it has been emphasized that such a parenting style may be one of the factors that will lead gifted children towards success. Weissler and Landau (1993), in their study of the family and home environment for gifted children, discovered that families of these children use a higher amount of complex verbal interactions that families of normally developing children. Fathers participating in the study provided more informative answers to questions from their children, and made more jokes during their interactions. Both mothers and fathers asked a larger number of questions to their parents, provided more informative answers and more frequently used analogies and comparisons.

Certain results in different research studies in Turkey suggest that families of gifted children have an authoritarian structure. For example, in Coşkun's (2009) research, it was shown that non-working mothers of gifted children are much more protective and believe in strict discipline compared to working mothers. Similarly, in a study conducted by Karakuş Atabay (2000) on the relationship between the perceptions of gifted adolescents for the attitudes of their mothers and their level of adaptation, it was found that gifted adolescents consider inconsistent disciplinary attitudes as invalid and protect their congruence, but that they have not been able to preserve their congruence when faced with physical punishment from their mothers. It was also found that gifted adolescents are more congruent that their peers and they perceive their parents as applying consistent disciplinary attitudes and as being supportive of their children in reaching their goals (Karakuş Atabay, 2000).

Different studies focusing on the relations between gifted children and their parents revealed a relationship pattern that is often called open communication (Abelman, 1991). This style of communication encourages children to act, being cognizant of the consequences of their behaviors and to have internal control. Research studies found that they are more open in responding to feelings and

communication than families of normally developing children, making more extensive use of problem-solving skills.

Observations that contradict the properties of families of gifted children and their family relationships often belong to families with low-income and minority groups or families of gifted children who have additional difficulties such as attention deficit disorder or learning issues (Reis, Hébert, Díaz, Maxfield & Ratley, 1995). There are also a number of particular problems that are observed in families of gifted children and their interactions within the family. Among common problems in this context include unrealistic expectations, power struggles between parents and their gifted children, the inability of the parents to correctly and completely understand the struggles of their children, risk of academic underachievement as well as conflicts between siblings (Moon, Jurich & Feldhusen, 1998).

When we review problems faced by parents of gifted children, we observe that they encounter a multitude of different problems and that they need substantial support. These problems are manifested both at the micro level in the form of problems they directly experience with their children, or at the macro level related to ways in which society perceives giftedness. The nature of problems faced by parents of gifted children in Turkey is not a topic that has adequately been researched. Rather that focusing only on what these problems are, it may also be useful to study how parents have been able to overcome such problems. For this reason, questions related to different solutions parents have been able to use successfully for these problems and what sources of support they have been able to use are among important questions to be answered in the process of supporting parents of gifted children. Being able to learn and share which support mechanisms and problem-solving strategies have been used by parents of gifted children who have been able to properly cope with differences and problems caused by the giftedness of their children and who believe they have been able to correctly guide their children, will be important in enlightening parents and educators and help us understand problems and solutions specific to this group of children. Results from this study are expected to provide specific examples to families with gifted children, educators working in this area and researchers to help reveal different support systems and coping strategies used by parents of gifted children. In this context, this study aims to answer the following three basic questions:

1. What were the biggest challenges parents faced when raising their gifted children and how did they overcome these challenges?

2. In which directions did the parents of gifted children feel the need to develop themselves in response to the needs of their gifted children?

3. Which mechanisms and sources of support have parents of gifted children used and benefited from while raising their gifted children?

## Method

### Model of the Research

In this study, the case study method was used, which is one of the patterns in qualitative research methodologies that allows in-depth investigation and analysis of one of more special cases and situations (Karasar, 2003; Miles & Huberman, 1994; Yıldırım & Şimşek, 2005).

### Study Group

The group of study for this research consists of four parents who have volunteered to participate in the study from among members of a society of parents with officially identified gifted children. One of the reasons why parents were chosen from such a society was because it was thought that parents who actively participate in activities of this society would be more inclined to support their gifted children and would be open to sharing their experiences. Parents who were listed as being among the founders of this society were first contacted with an email detailing the goal and content of the research. Six parents initially indicated their willingness to participate in the study but two of the parents later changed their minds, one due to health reasons and the other for unspecified reasons. The remaining four parents consisted of two mothers and two fathers. The gifted children of these four parents consisted of three boys and one girl, with ages between 12 and 14 years. All families were from upper socio-economic status, and all parents had full-time employment.

### Data Collection

Separate interviews were conducted with all parents during the process of data collection for this research. The interview form was developed by the researcher and consisted of three open-ended questions. Results and observations from previous research studies were used in the development of the interview form, and two experts in education and assessment areas were consulted to ensure the validity of the form content.

The interview form included questions related to most challenging difficulties faced by parents in raising their children and how they were able to overcome these difficulties, how much support they received from people, institutions and sources of communication and ways in which they have tried to develop themselves to be able to better support their children. In this research, questions were formulated based on the concepts of micro-system, meso-system, exo-system and macro-system within the Ecological Family Theory in finding individuals and institutions that parents received support from in raising their gifted children (Bronfenbrenner, 2000; 2001)

Following the development of the interview form, a pilot study was conducted with two of the parents. The interview form was subsequently finalized with revisions to clarify questions that were found to be difficult to understand for the parents. Parents who participated in this pilot study were not included in the scope of the final research. All interviews with the parents were conducted in August 2013

and were completed within a single week. With written permissions from the subjects, interview data was collected in the form of sound recordings and notes taken by the researcher. Interviews took an average of 45 minutes.

### Analysis of Data

The descriptive analysis technique was used in analyzing the qualitative data obtained through the semi-structured interviews conducted with parents of gifted children. In this context, answers from the parents were fit into a thematic framework according to different themes identified beforehand. During these resolution activities, answers were categorized into main themes such as the coping skills of parents, sources of social support etc. The "Family Ecological Theory", whose core message is that "development and change takes place through the interaction of the entity that experiences the change and the environmental conditions the entity", was used in the construction of the interview questions and the main themes used during the analysis. Themes that were extracted from the interviews were also resolved and categorized based on the concepts of micro-system, meso-system, exo-system and macro-system within the Ecological Family Theory.

## Results

### Findings Related to the Difficulties Faced by Parents in Raising Their Gifted Children and Solutions They Have Developed

Under this category, all four parents were asked the question "What was the most difficult challenge you faced in raising your gifted child and how did you overcome this challenge?" The answers that were provided were categorized under certain themes. Generally, the main areas of difficulty for parents in raising their gifted children were categorized under a number of themes, including the loneliness resulting from their inability to find useful and complete sources of information following the identification of their children as gifted, the difficulties faced by their gifted children in making friends and the resistance against authority exhibited by their children. All four parents indicated that in time, they have started using an increasing number and different types of coping skills. It was observed that parents never tried only a single coping method, but relied on multiple coping strategies. During the interviews, it was also observed that parents continually tried to acquire support from different individuals, institutions and environments. The general trend observed in all families was that they first started from their micro-system, attempting to change themselves and their environments in an attempt to provide a better environment for their gifted children. It was observed that during this change, parents used many different components of social support systems, including themselves, the school environment, friendships, other families and friendships with them, family clubs, and social and arts activities, but still transition between different levels of the ecological theory depending on time and different developmental periods of their children.

In particular, in the cases of Parent 1 (P1) and Parent 2 (P2), it was observed that they used different coping skills and social support systems, starting from changes in themselves as parents within the micro-system, and then other layers of the society in parallel with the structure of the Ecological Theory. Example views supporting this finding are provided below in the form of direct quotes.

**Direct Quote P1:**

*"When I found out that my child is gifted, I had no idea on what giftedness was. When my child started reading at a very early age, I did not know who to consult, I had no guidance. Other people I met with made no comments on this topic. Sometimes, I have even received negative comments. I heard that such children were problematic and maladjusted, I was even told they would eventually commit suicide. I have done a lot of research, read a lot in an attempt to understand my child and to minimize mistakes I would do in their raising. Where I work, I have taken on the production and directing of a television program for the education of preschool children. As part of this project, I have learned valuable pieces of information on child education from experts, and I got a chance to meet leading individuals in this area. Subsequently, having been inspired by these academic experts, we have established a society, and having been an official society established by parents on this topic, were even invited from the parliament to contribute our experiences and opinions which made me very proud."*

**Direct Quote P2:**

*"At first, I had no one by my side. I had to discover answers to my questions by myself. For example, my child had difficulty making friends and the problem of losing confidence in crowded and different environments. We found activities which involved calm and non-competitive environments (e.g. rhythmic gymnastics ballet, etc.) rather than complex and loud settings. In third grade, we had my child take the exam for the Government's Children's Ballet Class and she won, attended the school for three years and is now taking singing lessons. Vocal lessons make her very happy. For her problems making friends, we tried to ensure frequent get-togethers with her friends and their families, strengthening relationships and we seem to have solved that problem. Music and rhythm makes her happy. She was selected into the Hacettepe Children's Folk Dancing group following an audition. She learned teamwork and being patient. We sent her to travel abroad (Cyprus, Macedonia and Italy) within group settings. She has now started guitar lessons and also plays the flute. She is in the school band and is very happy, with lots of friends."*

## Findings Related to Areas that Parents of Gifted Children Felt that They Needed to Develop Themselves

Under this category, all four parents were asked the question "Which directions did you feel the need to develop yourselves as a result of your children being gifted?" Obtained answers were collected under specific themes. It was found that all four parents felt the need to develop themselves in a variety of different ways. The most

commonly observed theme under this category was that parents not only changed and developed themselves, but also continued this process to go on changing and developing their environments as well. Parents spent substantial effort trying to inform other individuals, other parents, neighbors and relatives as well. Beyond the development of the individual and the family, a definite process of becoming informed was observed in all parents, directed towards a more global development of individuals, institutions and the system in their environment. Apart from these, it was also observed that parents used different and unusual development methods in addition to typical ones. Nevertheless, the dominant thought was that development took place not only in the parents themselves, but also in their children as a result of the mutual interaction and the process of change. Opinions of parents that best reflect our findings in this context are given below in the form of direct quotes.

**Direct Quote P3:**

*"At first, we tried to acquire information ourselves. We tried to participate in family and individual classes as much as possible. At first, I tried to meet my child's needs not because he was gifted, but because he was in need. I tried to inform both myself and my environment in order to better understand my child."*

**Direct Quote P4:**

*"Since my child started reading at a very early age, we noticed his giftedness rather early. As a result, my struggle to be sufficient for my child also started rather early. I have done extensive research on the properties of gifted children and different methods for their education. I have consulted many sources. I have done projects that I was directly involved in, helping me develop myself and help other parents as well. I have definitely tried to get together with expert researchers in the area. I believe that, I have been able to create awareness within a certain circle of people."*

**Direct Quote P1:**

*"I have attended educational sessions on hypnotherapy and stress as well as relaxation techniques under anxiety. I have applied these with my child in order to reduce his level of stress. I have participated in educational sessions for parents in Science and Art Centers (BILSEM). I have never thought that I was not enough for my children. I always thought about what more I could learn with them and how we could grow together."*

## Findings Related to Individuals/Institutions Parents Thought They Benefited Most From After the Identification of Giftedness in Their Children

Under this category, all four parents were asked the question "Which sources of support have you used, which topics did they provide support for and how?" Answers provided by parents are categorized and summarized in Table 1 for clarity.

Table 1

*Individuals and Institutions that have Provided Support for Parents*

| Sources of Support | P1 | P2 | P3 | P4 |
|---|---|---|---|---|
| My spouse | ✓ | ✓ | | |
| My family | | ✓ | ✓ | |
| My spouse's family | ✓ | | | |
| My relatives | | | | |
| Friends | ✓ | | | |
| My child's teacher | ✓ | | ✓ | ✓ |
| Neighbors | | | ✓ | |
| The Internet | ✓ | ✓ | | ✓ |
| Books | ✓ | | ✓ | ✓ |
| Societies and family groups related to gifted children | ✓ | ✓ | ✓ | |

Parents indicated that they received support from a variety of different sources in raising their gifted children. Among most commonly observed sources of support were the children's teachers, internet resources, books and societies related to gifted children. The same parents indicated that they have not received any support from their relatives. They have listed among less important sources of support as their spouses, their own families, their spouse's families their friends and their neighbors. The following direct quotes from parents will be helpful in summarizing our findings.

### Direct Quote P4

*"In truth, books, the internet and my friends from the society have been the best sources of support for me. At first, I had not been able to find many books in Turkish but lately, there has been an increasing number of translated books in this area. Other parents with gifted children and my friends from the society have informed me on newly published and translated books."*

### Direct Quote P3

*"I have been most informed by the class teacher of my child. He was an experienced teacher, having had a gifted child in his class before and tried to help me every time I encountered a problem. I have received his support not only related to my child's education, but also things I could do about my child's friendship relations and how I could improve my child's social skills.*

## Conclusion and Suggestions

In this research, topics that parents of gifted children feel the need to receive support, ways in which they cope with different problems and how they have been able to develop themselves were studied. Our findings are discussed in this section within the micro, mezo, exo and macro levels of the Ecological System Theory to analyze problems experienced by these families, solutions they have been able to

find and different sources of support they received in this context to help understand related issues. As noted above, our discussions are formulated in the framework of the ecological system theory, establishing relations to the importance of this topic in the literature as well as the current situation. According to the ecological theory, the family stands at the center of a number of increasingly larger circles. This theory identifies different environmental systems that surround the individual and the family. These are, in order, the micro-system, which includes environments such as the school, the workplace or friend groups that the individual or the family is in direct contact with, the mezo-system which consists of interactions between different micro-systems, the exo-system which represents conditions that indirectly affect the development of the individual or the family, and the macro-system which forms the outermost layer and includes general institutional patterns that define a culture or subculture as well as the chrono-system represents historical and time-dependent changes.

When we consider the findings of this study it can be observed that families receive more support from components such as the child's teacher, books, the internet or societies, which can be considered more as part of the mezo-system or the exo-system, rather than close individuals that are part of the micro-system such as friends, relatives, neighbors or parents themselves. This finding is in fact compatible with existing findings in the literature indicating that families of gifted children are often isolated from their society (Porter, 2005). On the other hand, the results of our study also revealed that parents of gifted children often use a multitude of coping skills for problems related to their children and that they seek support from different social systems. This result can also be interpreted in relation to previous findings and results in the literature. Parents of gifted children, just like these children themselves, exhibit attitudes that are related to perfectionism, such as determination, not easily giving up and trying many different ways to reach a solution (Enright and Ruzicka, 1989). These families were also found to possess multiple different skills for dealing with stress, using art and socialization as an additional support system. At this point, we can see that parents of gifted children also use different social layers as support systems as indicated by Bronfenbrenner's Ecological System Theory (Bronfenbrenner, 2000).

Another result that was discovered through this study was that parents of gifted children often found the strength to deal with problems from within their own family, and have the motivation to grow and develop with their children. They were observed to capable of solving their problems starting from the individuals themselves, and with effects that eventually expand to the micro, meso and exo systems within the Ecological Theory in the short and middle terms. As Bronfenbrenner (2001) observed in his theory, parents in this study did not limit the process of change for solving problems related to their child's giftedness to only themselves, but proactively led components of change in all layers of the society surrounding them.

There are also certain limitations related to the findings presented in this study. One of the important limitations is clearly the small number of families that were interviewed and the high socio-economic status of the participants. Moreover, the participants were from a group of parents who established a society, meaning that they might be different than other families in their assertiveness. As a result of these limitations, our findings are limited in their generalizability but reveal important pieces of information on problems experienced by parents of gifted children in Turkey and their methods for coping with their problems, providing guidance for parents and future researchers in this context.

There are a number of topics that can be suggested for future research related to parents of gifted children. For example, it is clear that groups such as friends, relatives and neighbors, who parents of gifted children indicated that they received the least support from, also need as much support as the parents themselves. It should not be forgotten that social support systems surrounding gifted children may need as much support as the children themselves. Online or in-person educational packages, individuals or materials that can provide support could be provided for both parents, as well as this social circle, both close and distant. Education and development programs that focus on most difficult problems faced by families, developed according to developmental theories for families can be developed.

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# Analysis of Humor Elements in Illustrated Story Books for Children*

**Ayşegül Ergül****

## Abstract

One of the resources that make children happy are illustrated story books, which should be a part of their life in all stages of childhood. In addition to many other benefits, illustrated story books provide children with the opportunity to have fun and start integrating humor into their lives. That is why the inclusion of humor elements in children's books are important in that they make children happy and contribute to the development of skill of humor use. The aim of this study is to identify and examine humor elements in internal and external structure of illustrated story books for children aged between three to six. For this purpose, it's investigated in selected story books whether humor elements were used in book cover, pictures, texts-dialogues and characters. Data were collected using a form that was developed by the researcher. Humor literature was reviewed while preparing this form. The form was evaluated by three academics whom were experts in early childhood education and child literature. A total of 80 illustrated story books were examined. Books were analyzed by the content analysis technique. Results indicates that the most common humor element in story books as a whole was absurdity (f=228). This element was followed by incongruity (f=136), exaggeration (f=128) and surprise (f=66). Parents and teachers are required to examine closely any external and internal information about the book. They have to read the whole story and decide whether the themes are suitable for children and whether illustrations support these themes. Making children have fun and laugh, humor is a tool that has a great place in children's lives and contribute to the development of their mind, although the content of humor for children and adults may be different. Supporting these natural tendencies of children – namely, having fun and laughing – by stories and illustrations in books and plays will allow them to acquire a lot of information and develop various life skills.

***Keywords:*** preschool, humor, children, illustrated story books

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# Çocuklar için Yazılmış Resimli Öykü Kitaplarında Yer Alan Mizahi Ögelerin İncelenmesi

## Öz

Çocukların mutlu olmasını sağlayan kaynaklardan biri, yaşamlarında her yaş döneminde yer alması gereken resimli öykü kitaplarıdır. Resimli öykü kitapları sayısız yararlarının yanı sıra, çocukların eğlenmesi ve yaşamlarına mizahı katmaya başlamalarını sağlamak için de pek çok fırsat sunmaktadır. Bu nedenle çocuk kitaplarının mizahi ögeleri kapsama durumu çocukların hem mutlu olmaları hem de mizahı kullanma becerilerinin gelişimi açısından önemli görülmektedir. Bu çalışmanın amacı, üç-altı yaş çocuklar için yazılmış olan resimli öykü kitaplarının iç ve dış yapı özelliklerinde yer alan mizahi ögelerin belirlenmesi ve incelenmesidir. İnceleme kapsamına alınan öykü kitapları; kapak, görseller, öykü, metin-diyaloglar ve kahramanların özellikleri gibi başlıklarda mizahi ögeleri içermesi bakımından değerlendirilmiştir. Veriler araştırmacı tarafından geliştirilen bir form kullanılarak toplanmıştır. Bu form geliştirilirken mizah alanyazını gözden geçirilmiştir. Geliştirilen form, erken çocukluk gelişimi ve çocuk edebiyatı alanlarında uzman olan üç akademisyen tarafından değerlendirilmiştir. Araştırma kapsamında 80 resimli öykü kitabı içerik analizi tekniği ile değerlendirilmiştir. Sonuçlar incelendiğinde, en sık karşılaşılan mizahi öge olasılık dışı (f=228) olma durumudur. Bu ögeyi uyumsuzluk (f=136), abartma (f=128) ve sürpriz (f=66) olma durumu izlemektedir. Ebeveynler ve öğretmenlerin yapması gereken, kitapların iç ve dış özelliklerini dikkatlice incelemektir. Öyküler baştan sona okunmalı, temaların çocuklar için doğru seviyede aktarılıp aktarılmadığı ve görsellerin bu temaları destekleyici olup olmadığı gözden geçirilmelidir. Gülmek ve eğlenmek, dolayısıyla yetişkinlerin anlayışından farklı içerikte de olsa mizah, çocukların yaşamında oldukça yer kaplayan ve zihinlerini geliştiren bir araçtır. Çocuklarda doğal olarak var olan bu unsurları gerek kitaplardaki öykü ve görsellerle gerekse de oyunlarla desteklemek, pek çok bilgiyi çocuklara kazandırmanın yanı sıra çeşitli yaşamsal becerilerin edinilmesi için de gerekli görülmektedir.

***Anahtar Sözcükler:*** okulöncesi, mizah, çocuklar, resimli öykü kitapları

## Introduction

The understanding of humor involves cognitive processes and problem-solving skills, and even reveals the progression from the implicit to the explicit, which illustrates transitional states of mental activity (Puche-Navarro, 2009). Humour is a blend of imagination, creativity, and play (Loizou, 2005).

Humor appreciation recruits a wide range of brain areas, which differentially activate as a function of distinct humor-inducing stimulus modalities and task requirements. Nonetheless, all of these auxiliary mechanisms seem to converge towards two core processes of humor appreciation: incongruity detection and resolution (the cognitive component); and a feeling of mirth or reward (the emotional component). None of the regions or networks underlying human humor appreciation evolved individually or in concert with another expressly for that function. Rather, the combination of several of these regions and/or networks in the service of humor appreciation became increasingly prominent in human society because of its importance in processing social information (Vrticka, Black & Reiss, 2013).

Having a good sense of humor is often considered to be an important component of social adjustment, coping to adversities and psychological well-being (Ho, Chik & Chan, 2012). Being happy and laughing are indispensable elements of human life even under the hardest conditions. These actions occur in children spontaneously and smoothly – unlike the case in adults. Children get happy and laugh owing to many details that adults sometimes hardly understand.

Over time, children develop a repertoire that includes a number of different types of humor. During the prekindergarten years, children experiment with understanding and producing nonlinguistic and linguistic humor (Fitzgerald & Craig-Unkefer, 2008). During their daily lives, children encounter many forms of humor in a variety of settings. They hear jokes and riddles, have funny stories read aloud to them, watch cartoons on television, and read books that contain humorous events and situations (Serafini & Coles, 2015).

Once children understand objects can be used in multiple ways, they can misuse objects as a joke. Similarly, once children understand the conventional nature of labels, they can mislabel objects as a joke. Finally, once children have a deeper understanding of concepts, they can make conceptual jokes. For example, they can play with various aspects of the concept ‘cat’: what it says, (cats say ruff), number (cats have five legs), or colour (cats are purple) (Hoicka & Akhtar, 2012).

The types of humor most often observed include the performance of incongruous actions, humorous responses to incongruous actions and objects, the expression of joy during times of play, and the use of nonsense words. Other types of observed humor involve clowning, verbal or behavioral teasing, riddling, joking or playing jokes, and self-disparagement (Dowling, 2014).

It is necessary for children to be aware of the context of one idea and how that context changes, in order to be able to enjoy the funniness of the situation. Moreover, it is argued that in order for children to consider something as funny, or understand an incongruity, they have to be able to find a resolution to the specific incongruity and problem solve it. In other words, the incongruity creates a "problem" in the mind of children and when they are capable of solving that problem, thus using cognitive mental processes, they can enjoy the humor created in the situation (Loizou, 2005).

Emergence of humor perception and creation begins at very early months. According to Mireault, Poutre, Sargent-Hier, Dias, Perdue & Myrick (2012), infants' ability to create humor via clowning also increased with age, starting with simple shrieks at three months to imitating absurd actions by five months. These increases are partly potentially explained by accompanying increases in parental smiling, laughing and clowning in response to infant clowning. There are lots of studies which mention about parental affect on infant humor and it has implications for some of the major social–emotional milestones of infancy, including attachment (Mireault, Sparrow et al., 2012), social referencing (Mireault et al., 2014).

In a study that systematically examined the production of novel humorous acts, 30-month-olds intentionally mislabeled objects and produced made-up labels (e.g., 'goojooboojoo') to be funny. Also 36-month-olds were significantly more likely to laugh when producing incongruous versus congruous acts and when mislabeling versus correctly labeling objects (Hoicka & Akhtar, 2011).

Humor development in children is inextricably linked to their cognitive, perceptual, and linguistic development. Humor appreciation and engagement develop over time in the child. Initially, humor is seen when an infant elicits laughter from caregivers and then repeats that action to generate the same type of attention. In children aged 18 months to 3 years, appreciation of cartoons is present as well as enjoyment of slapstick and using objects in an unusual manner. Humor then generally moves into puns and riddles and then, as the child ages, into more subtle and complex forms. One aspect in humor development is in the growth of cognitive abilities with age. McGhee proposed a 4-stage theory for the development of appreciation of humor in children. These stages are based on the child's developing ability to recognize and produce cognitive incongruity. The use of humor has been found to relate to popularity, physical health, and adaptive well-being. It has been linked to strong pro-social skills as well as group cohesion. Temperament and communication competence has also been linked to humor and peer status (Semrud-Clikeman and Glass, 2010).

McGhee states that children progress sequentially through these stages of humor development, but the ages of the children may vary due to the uniqueness of individual development (Southam, 2005). Children's humor, from a simple mode (e.g., clowning, teasing) to an increasingly sophisticated mode (e.g., appreciating cartoons, funny pictures, and funny stories, telling riddles and jokes) demonstrates their increasing knowledge about the world. For example, when children tell riddles

or jokes and can explain why they are funny, it implies that they have concept of the funny things in their mind, evidence of their knowledge in the area (Guo, Zhang, Wang & Xeromeritou, 2011).

Humor, a method that enables minds to cope with life, develops in children thanks to good practices and experiences they have in early ages. According to Dowling (2014) as in all development, individual differences in humor skills differ based on cognitive and social development as well as personal preferences and the influences of family, peers, other significant adults, and the media.

Humor is a vehicle to establish and maintain a therapeutic alliance with children. When used positively and thoughtfully, it improves the counseling relationship and environment, helps the counselor assess the client's cognitive abilities and mental health, and teaches young clients new skills they can use in their everyday lives. Humor is a valuable therapeutic adjunct in making assessments, forming a therapeutic bond, helping children develop social skills, encouraging catharsis, addressing resistance, reframing maladaptive beliefs, and replacing rigid, self-absorbed perspectives (Berg, Parr, Bradley & Berry, 2009; Digney, 2013).

In a study, four–six-year-old children described their coping strategies for hospital-related fears. Positive images and humor is one of the most frequent strategies (Salmela, Salanterä, Ruotsalainen and Aronen, 2010). Therefore many resources about clowns (Tener, Lev-Wiesel, Franco & Ofir, 2010; Dionigi & Canestrari, 2016) and clown doctors (Ford, Courtney-Pratt, Tesch & Johnson, 2013; Arriaga & Pacheco, 2016) presents importance and positive effects of humor especially in hospitals for helping children.

As known, there are four types of humor style. Self-enhancing humor is the ability to maintain a humorous perspective in the face of stress and adversity; it is closely aligned to coping humor. Aggressive humor also enhances the self, at least in the short-term, but is done at the expense of others. Affiliative humor enhances one's relationships with others and reduces interpersonal tensions. Finally, self-defeating humor to enhance one's relationships with others, but at the expense of the self. Distinguishing between different components of humor has brought with it a clearer picture of the relationships between humor and adjustment (Fox, Hunter & Jones, 2016).

As found by Kuiper and Leite (2010), self-enhancing humor was associated with higher ratings for socially desirable personality attributes compared to the maladaptive humor styles. Self-defeating humor can have serious detrimental effects on the impressions formed by others.

By practicing humor, children can explore different avenues to connect with their peers. Their innate desire to laugh encourages children to choose funny books, which supports their development of the written word. As facilitators of children's development, educators need to prepare the environment and model humor to

support humor development in the prekindergarten years (Fitzgerald & Craig-Unkefer, 2008).

One of the resources that make children happy is illustrated story books, which should be a part of their life in all stages of childhood. Research indicates that there are many different positive effects of illustrated story books. Books can serve as an important vehicle for developing vocabulary and the word gap (Snell, Hindman & Wasik, 2015; Wasik & Hindman, 2014; Spencer, Goldstein & Kaminski, 2012).

The routine of reading and discussing books at home and school provides many benefits for young children such as establishing partnerships with families, developing early literacy and vocabulary skills, providing opportunities to learn and hone communication skills, and positively impacting personal, social, and intellectual development, supporting acceptance of children with disabilities (Ostrosky, Mouzourou, Dorsey, Favazz, & Leboeuf, 2015) and also problem solving skills (Fettig, Schultz & Ostrosky, 2015).

In addition to many other benefits, illustrated story books provide children with the opportunity to have fun and start integrating humor into their lives. That is why the inclusion of humor elements in children's books are important in that they make children happy and contribute to the development of skill of humor use.

### The Aim of the Study

The aim of this study is to identify and examine humor elements in internal and external structure of illustrated story books for children aged between three to six. To achieve this aim, answers to the following questions were sought:

1. Which humor elements were used in book cover, pictures, texts-dialogues and characters?

2. What are the most commonly used humor elements and examples?

## Method

### Model of the Research

This research is a descriptive study in the screening model using qualitative data collection techniques. Books were analyzed by the content analysis technique. Hsieh and Shannon (2005) put forth that qualitative content analysis is a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns.

Büyüköztürk et al. (2013), considered the content analysis a systematic, repeatable technique summarizing certain words of a text with smaller content categories using codes based on some certain rules. Çalık and Sözbilir (2014), defines the content-analysis under three sub-headings "meta-analysis, meta-synthesis

(thematic content analysis) and descriptive content analysis". Meta-synthesis synthesizes and criticises the results of studies conducted in a specific content area by creating themes or matrixes. Therefore, current research can be defined as a thematic content analysis study.

A total of 80 illustrated story books – 40 originally written in Turkish and 40 translated into Turkish – were examined for the purpose of this study. The books were published between 1993 and 2015. The illustrated story books of 80 writers from 47 different publishing houses were randomly included in the study. When selecting the books, it was paid particular attention to the fact that they weren't world fairytales or local folk stories.

The page numbers of books ranged between 13 and 47. With regard to paper quality, 65 books (81,25%) were printed on high-grade paper while 15 books (18,75%) were printed on second quality paper. There was a complete harmony between illustrations and the story in 79 books whereas such a harmony was missing in some cases in one book. There was no information on the age of target readership in 61 books (76,25%) whereas 19 books (23,75%) included information about it.

**Data Collection Instrument**

Data were collected using a form that was developed by the researcher. The humor literature was reviewed while preparing this form. The form was evaluated by three academics whom were experts in early childhood education and child literature. The humor elements specified after a review of literature were incongruity, exaggeration, surprise and absurdity.

## Results

With regard to characters in books, it was found that the most frequently preferred figures were animals (giraffe, bear, turtle and so on) and human beings (parents, grandfather, friend and so on). These were followed, in the order of frequency, by imaginary beings (alien, witch, bugaboo, etc.), things (brush, toy, etc.), plants (daisy, tree, etc.), objects (stone, etc.) and others (vehicles).

The most common themes were differences and the beauty of differences (f=14), sharing-solidarity-collaboration (f=11), love for sibling/grandfather/mother/family (f=9), hard work-determination-struggling (f=8), protection of health/nourishing well (f=6), friendship (f=5), and protection of nature (f=4).

It was examined under the heading of plan whether the events in the books followed a rational storyline. With regard to the occurrence of events, it was found that 73 books (91,25%) had a rational storyline, four books (8,75%) had an irrational storyline in some cases, and one book had a completely irrational storyline.

Language and expression are vital for children to understand the story told. In this respect, 50 books (62,5%) were clear, explicit and easily understandable, 22

(27,5%) were not easily understandable in some cases, and eight (10%) were hardly understandable.

The letters in illustrated story books are important for the development of literacy skills of all children, regardless of whether they are literate. The font size was medium in 37 books (46,25%), between small and medium in 16 (20%), small in 13 (16,25%), between medium and large in 10 (12,5%) and large in four books (5%).

With regard to page design, it was found that text and illustration were on the same page in 63 books (78,75%) and on separate pages in 10 books (12,5%), and that mixed page design (i.e. text and illustration on same/different pages) was adopted in seven (8,75%) books.

It was examined the following book components to see whether they involved humor elements: book cover, pictures, the story as a whole, text-dialogues, and characters. The most common humor elements on book covers were, in the order of frequency, incongruity (f=38), exaggeration (f=35), absurdity (f=31) and surprise (f=2). The humor elements in pictures were exaggeration (f=48), incongruity (f=47), absurdity (f=45) and surprise (f=26). The humor elements in the story itself were, in the order of frequency, absurdity (f=56), surprise (f=17), incongruity (f=7) and exaggeration (f=1).

The most frequent humor element in text-dialogues was absurdity (f=48). This was followed by incongruity (f=16), surprise (f=15) and exaggeration (f=13). The most frequent humor elements related to story characters were absurdity (f=48), exaggeration (f=31), incongruity (f=28) and surprise (f=6).

Results indicates that the most common humor element in story books as a whole was absurdity (f=228). This element was followed by incongruity (f=136), exaggeration (f=128) and surprise (f=66). Below are some examples of humor elements selected from the books.

The examples that represent absurdity are laughing bees, talking animals, dragons, walking mummies, going to space from the rainbow, a hat with feelings and talking rocks.

Under the category of incongruity, there are animals dressed like human beings, a parrot perching on a child’s head, a baby coloring itself, a child wearing her/his mother’s shoes, clothes in wrong sizes or the presence of a turtle in the toilet.

The examples of exaggeration particularly in pictures were human beings and children with huge heads, emphasis on eyes in human beings and animals and a large spacecraft, and in texts were prolonged words with addition of letters such as “hellooooooo” and expressions such as “the closet was so messy that one could think it was struck by storm” or “its tail was so long that one could forget its existence”.

The final category – surprise – was exemplified by fish jumping like an arrow, finding five kittens in a box, a rabbit toy whose ears break apart suddenly or a crocodile swallowing a dentist. When all books are considered together, it is seen that surprises are less frequently encountered elements of humor, but that all examples under this category are supported by both illustrations and textual expressions.

## Conclusion and Recommendations

Humor elements may take place in many events in children's lives. Furthermore, many events, situations or themes may be presented to children with a humoristic approach. The most frequent themes in books were differences and the beauty of differences (f=14), sharing-solidarity-collaboration (f=11), love for siblings/grandfather/mother/family (f=9), hard work-determination-struggling (f=8), protection of health/nourishing well (f=6), friendship (f=5), and protection of nature (f=4). Children can become happy easily. They prefer spending more time with any objects, cases or people that draw their attention and make them happy. From this perspective, the presence of elements that have a humoristic nature and make them happy in books is important for enhancing what they gain from books.

Supporting other studies in the literature, the results indicate that the most frequent humor elements in books were absurdity (f=228), incongruity (f=136), exaggeration (f=128) and surprise (f=66). While some books involved more than one of these elements, some more didactic books or books focusing on providing information involved only one or maximum two humor elements. Although the illustrations were appropriate in these books, it is still thought that children are less likely to find these books attractive and thus to make use of information provided in such books. Many authors agree that at the core of humour lies incongruity, that is, a simultaneous concurrence of elements that either contradict each other or are surprising or shocking (Šeďová, 2013).

The enjoyable feelings associated with funny texts and surprising events provide a powerful motivation for children to seek out humor in their daily lives. It is important to remember that humorous texts often contain sophisticated elements of satire, irony, and parody and require readers to think and use their imaginations to associate one event or character with another. What may first look like a simple, funny book may in fact require readers to think in more complex and sophisticated ways (Serafini & Coles, 2015).

However, on the other hand, stories that include only elements of fun and attractiveness and written for the mere purpose of consumption are also less likely to be beneficial for children. It was noted that some books included wrong information about life. The most obvious example was the story of a turtle that got bored of its shell and got rid of it to take a tour. Such things that never happen in real life do not have positive impacts on development of imagination and may cause children to acquire wrong information about life.

Although the difference is not so great, it can be said that the humor elements are more often found in translated books as both number and type. Especially in the Turkish books published in the last five years, the humorous approach was found to be more preferred.

Information on the age of target readership is not provided in only 19 books (23,75%). From the perspective of publishing houses that market and sell books, information on age of target readership may be a factor restricting target audience. However, such information plays a guiding role for educators and particularly parents to make rights choices.

It is a positive aspect that the characters in books are mostly human beings and animals, since they make it easier for children to establish connections between stories and their own lives. This enables children to see and consider these beings – a part of their lives – from a different perspective.

The fact that most of the books are printed on high-grade paper and that there is a total harmony between illustrations and stories in all books excluding one of them point out the importance given to children's books.

Any information on the age of target readership is of primary importance when adults are selecting books for children. With regard to the books examined in this study, it was noted that the information on the age of readership was in some cases misguiding. Therefore, adults (i.e. parents and teachers) are required to examine closely any external and internal information about the book. They have to read the whole story and decide whether the themes are suitable for children and whether illustrations support these themes.

Not only selecting books for children but also selecting books with children become important as they grow. Children may tend to choose books with colorful and glittering covers, produced only for the purpose of consumption. At this point, adults are required to offer right alternatives for children and enable them to make a choice among these alternatives. It is suggested that parents and educators consider whether the books include humor elements when they are selecting books for children.

Ownership of books can be a powerful motivator to children. Children showed increased interest in reading and improved some of their literacy skills (e.g., asking questions, pretend reading, predicting happenings in the story, answering comprehension questions, drawing pictures, writing sentences, and looking at the pictures and making their own meaning). Ownership of a storybook by young children seemed to have had an influence on family involvement and child-parent/s interactions (Tadesse & Washington, 2013).

Making children have fun and laugh, humor is a tool that has a great place in children's lives and contribute to the development of their mind, although the content of humor for children and adults may be different. Supporting these natural

tendencies of children – namely, having fun and laughing – by stories and illustrations in books and plays will allow them to acquire a lot of information and develop various life skills.

It is believed that life skills such as finding various alternatives for problem solving, coping with unfavorable experiences, systemizing feelings in an appropriate way and communicating with living and nonliving things in the environment are inevitable for individual and social development. That is why all people, primarily children, need humor as well as resources that involve humor (for example story books, novels, toys, drama and films) in life.

Children should be encouraged to use humor elements in the stories they create and the pictures they make. Positive feedback should be given when they use the right humor elements in educational activities or daily life. Children may also encounter examples of correct and developing humor elements in theater plays.

Book authors and illustrators should improve their knowledge of child development and better understand children's world of emotion and thought. Be aware of the importance of humor for children and be able to create products for children's literature. Book reading activities can be arranged so that authors and illustrators can share their works directly with children in order to provide this.

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# An Investigation of Turkish Early Childhood Teachers' Self-Reported Beliefs and Practices Regarding Assessment*

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## Abstract

This paper presents an examination of Turkish early childhood education teachers' self-reported beliefs and practices in relation to classroom assessment, to determine their relationship to the teachers' educational and professional backgrounds. A survey method was applied to 194 teachers in private and public early childhood education centers serving children three to six years located in Ankara, Turkey. Results revealed that the early childhood education teachers' beliefs were correlated with their classroom practices which means early childhood teachers practice what they believe in terms of developmentally appropriate practices. Having an undergraduate or post graduate degree and years of teaching experience, were found to affect the teachers' self-reported beliefs as well as their self-reported classroom practices. Moreover, it means that a strong positive correlation between the early childhood education teachers practice scores and the level of education, meaning the higher the level the higher practices scores they received. Thus, it means the more early childhood education content knowledge is gained through obtaining a higher level of education, the more the greater the appropriate assessment practices the teachers implement. Also the amount of teaching experience was found to be significant in their self-reported beliefs and practices and this means that teachers' years of teaching experience may influence their beliefs and practices.

***Keywords:*** early childhood education, assessment, teachers' beliefs, teachers' practices

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# Okul Öncesi Öğretmenlerinin Değerlendirmeye Yönelik Görüş ve Uygulamalarının İncelenmesi

## Öz

Bu araştırma, çalışan okul öncesi öğretmenlerinin, değerlendirmeye yönelik belirttikleri görüşleri ve gerçekleştirdikleri uygulamaların, kendi öğretmenlik felsefeleri, uygulamaları, eğitim geçmişleri ve profesyonel geçmişleriyle ilişkilerini tespit etmek amacıyla gerçekleştirilmiştir. Kullanılan ölçek Ankara'daki özel ve devlete bağlı okul öncesi eğitim kurumlarında çalışan toplam 194 öğretmene uygulanmıştır. Katılımcılar; 3-6 yaş aralığındaki çocuklara yönelik eğitimin verildiği okul öncesi eğitim kurumlarında çalışan, farklı eğitim ve profesyonel geçmişleri olan öğretmenlerden oluşmaktadır. Araştırmanın sonucunda; okul öncesi öğretmenlerinin değerlendirmeye yönelik görüşleri ile sınıf içerisindeki değerlendirme uygulamaları arasında bir bağ olduğu ve çalışmaya katılan öğretmenlerin eğitim düzeylerindeki yüksekliğin ise gerçekleştirdikleri uygulamalarda fark yarattığı tespit edilmiştir. Araştırmada ulaşılan bu sonuç ile öğretmenlerin okul öncesi eğitimi hakkında ne kadar fazla bilgiye sahip olduklarını, uyguladıkları değerlendirme yöntemleri ile ortaya koydukları saptanmıştır. Ayrıca çalışmaya katılan okul öncesi öğretmenlerinin öğretmenlik tecrübelerinin, onların değerlendirme konusundaki inanç ve uygulamalarını olumlu yönde etkilediği sonucuna ulaşılmıştır. Son olarak, sınıf içerisindeki öğretmen sayısının, öğretmenlerin değerlendirmeye dair görüşlerini ve sınıf içerisindeki değerlendirme uygulamalarını etkileyen diğer bir faktör olduğu tespit edilmiştir.

***Anahtar Sözcükler:*** okul öncesi eğitim, değerlendirme, öğretmenlerin görüşleri, öğretmenlerin uygulamaları

## Introduction

Early childhood is a period in a child's life when their skills, knowledge and capabilities are developing rapidly. To ensure that this development is fostered, children in this period need to be scaffolded, supported and observed in the most effective way. Thus, an early childhood teacher should know how, when, where and why a child ought to be taught and assessed. In order for a teacher to gain information about the child's progress and thus whether there should be any changes to the way in which lessons are delivered, the teacher needs to apply appropriate assessments. In early childhood education the main assessment techniques are basically categorized as formal and informal. Formal assessment refers to standardized tests that allow educators to compare an individual child's performance in a test to the performance of other children who have similar characteristics (Kagan & Shepard, 1998). As stated by Taylor and Nolen (2008), formal assessment techniques should be used with young children only when needed since they focus on the product rather than process and only deal with the end product of a developmental domain (Bagnato, Neisworth, & Munson, 1997). During most of the early childhood period, it is difficult to measure and assess the individual skills and elements of knowledge. Young children are not reliable test takers due to the many different personal, developmental, and environmental factors that affect their behaviors (Bredekamp & Rosegrant, 1995).

The second category of early childhood education assessment is informal using multiple resources in an ongoing process of observing the educational and developmental progress of the child. This procedure includes direct observation, interviews, rating scales, questionnaires, checklists, rubrics, and work samples. Keith and Campbell (2000) stated that informal assessment techniques produce more comprehensive, objective and detailed data than formal methods.

Whatever the formal or informal assessment techniques are used to evaluate the progress of young children, the teacher has the most active role in gathering the data from multiple sources. Since the child is an active learner and actively participates in his/her learning and development process in the school or nursery environment and the teacher should be the main facilitator of this process.

In early childhood education, the teacher has the primary role of observing and assessing the children. Therefore, it is important to analyze the beliefs and practices of early childhood teachers concerning the assessment of young children since their beliefs may affect their behaviors in the classroom (Pajares, 1992). For this reason, this study was designed to examine early childhood education teachers' self-reported beliefs and self-reported practices in regard to developmentally appropriate assessment.

The specific research questions for the study were:

1. To what extent do early childhood education teachers believe in the developmentally appropriate assessment practices?

2. To what extent do early childhood education teachers practice developmentally appropriate assessment in their own teaching?
3. What relationships exist among teachers' self-reported developmentally appropriate assessment beliefs, practices and their educational/professional backgrounds?

## Developmentally Appropriate Assessment

In early childhood education, generally assessment is an ongoing and comprehensive system that monitors the child, the program, the teacher, and the whole teaching and learning process. It is one of the assessment type of authentic assessment. According to Neisworth and Bagnato (2004), authentic assessment refers to the systematic collection of information about naturally occurring behaviors of young children and families in their daily routines. Information collected through direct observation and recording, interviews, rating scales and observed samples of the natural or facilitated play and daily living skills of children. Since early childhood assessment has increasingly attracted attention from educators and associated professionals (Scott-Little, Kagan, & Clifford, 2003), thus it is important to continue to research how the authentic assessment process is constructed in early childhood programs for young children. Several studies have been conducted about how assessment should occur in early childhood education settings. According to the National Association for the Education of Young Children (NAEYC) (2005), assessment in an early childhood setting should be developmentally appropriate and should have goals and methods. The basic aims of developmentally appropriate assessment are to assist in designing the curriculum, determining the individual differences of a child, individualizing instruction, identifying children with special needs and improving communication with parents (McMillan, 1996). The creation of developmentally appropriate assessment ensures that the individual child's differences are taken into account, and appropriate and accurate assessment needs to be based on specific principles; firstly, assessment should use multiple sources of information, secondly it should benefit the child and improve learning, thirdly it should involve the child and family, fourthly it should be fair for all children, and lastly assessment should be authentic (Wortham, 2005).

In order to establish a developmentally appropriate assessment process the family, school administration and teachers should be involved. However, it is the teacher that has the greatest impact on the learning experiences of the child.

## The Role of Teachers in Early Childhood Education Assessment

The process of assessment of young children includes the participation of the child, the parents, the school system, and the teachers; this is particularly true in informal assessment. Research has shown that the teacher has the largest and the most important role in the assessment of young children and the term assessment is generally considered to be the process teachers use to evaluate the quality of their students' work and the success of their instructional practices (Taylor & Nolen, 2008).

Since the teacher has a pivotal role in the assessment process it is important that they have specific guidelines and standards such as those designed by the American Federation of Teachers, National Council on Measurement in Education, and the National Education Association. Below is a summary of some of responsibilities of teachers in relation to assessment. Teachers should be able to;

**1.** Select and develop appropriate assessment tools and ensure an ethical approach to the testing of children.

**2.** Administer, score and interpret the results of assessments and use the results in curriculum development, syllabus, lesson and activity planning and in relation to each child's educational progress.

**3.** Ensure that all parties involved in the child's education, and the child are fully aware of the results of the assessment. (NAEYC, NAECS/SDE, 2003).

**Early Childhood Education and Assessment in Turkey**

The importance of early childhood education in Turkey is increasing day by day; various economic and social changes were instrumental in increasing awareness in teachers, parents and the community. Teacher training quality by universities, and expansion of early childhood education centers are being carried out. In Turkey preschool education is noncompulsory. However, the Ministry of National Education (MONE) plans to increase the number of students who attend early childhood education centers. Teachers in public preschool classrooms should have a four-year education in the departments of early childhood education, or the child development and education of departments in universities. Early childhood education institutions use a developmentally based curriculum developed by education specialists and university professors and approved by MONE. It contains both daily and monthly plans with specific developmental objectives and indicators. Also MONE added new perspectives about assessment to this developmentally based curriculum in which it is stated that the results of the assessment of the program can be used to improve education and effects of it. In both cases the main goal is to support children's development and education. Previously traditional assessment tools were used which were standardized tests or teacher-created like multiple-choice tests, fill-in-the-blanks, true-false, but after new early childhood program which was revised in 2013, authentic assessment tools such as; observation records, anecdotal records, developmental checklists, portfolio, and developmental reports started to be used which include a summary of the performance of each child (MONE, 2013).

There are limited numbers of studies on assessment in early childhood education in Turkey. Eren (2007) analyzed the attitudes of preschool teachers, preschool children and their parents towards assessment through portfolios. The study was carried out over one year in a private kindergarten and the researcher used observations, interviews and questionnaires to gather the data. Positive attitudes towards portfolio assessment were observed in children and the preschool teachers in terms of the children's development of self-expression self-confidence and taking

responsibility. The parents found this type of assessment helped them understand their children's attitudes, interests and capabilities (Eren, 2007).

## Method

In order to create a representative sample, questionnaires were sent to 81 early childhood education centers that were selected from different districts in Ankara. The final sample consisted of 194 early childhood education teachers from different centers. 105 (54.1%) were working in public early education centers and 89 (45.9%) from private institutions. All the teachers participated in the study were female and aged from 18 to 52; 34.5% of them were between the ages of 18-25, 32.5% of them were between 26-35 ages, and 33% of them were between the ages of 36-52. Also their educational backgrounds were showing an alteration; 28,9% graduated from vocational high schools, 10.3% have associated degree, 46.9% have an undergraduate degree and 13.9% of them have graduate degrees.

*The Early Childhood Education Teacher Assessment Beliefs and Practices Questionnaire* was developed by the researchers for this study. The questionnaire was constructed through reviewing related literature and other existing instruments related to classroom assessment as well as instruments about teacher beliefs and practices. The questionnaire was checked by two experts and then some questions were revised where necessary.

The final instrument consisted of three parts; the basic demographic and educational/professional background data from the teacher participants, teachers' assessment beliefs, and teachers' assessment practices in the classroom. There were 38 total items and each item was composed of a five point Likert type scale with points from 1 to 5.

The psychometric properties of Early Childhood Education Teacher Assessment Beliefs and Practices Questionnaire for the pilot study and the sample were examined using factor analyses and reliability analyses. The pilot study was conducted with 100 early childhood education teachers, normality assumptions are checked and the sample was seen as sufficient for the pilot study. According to Pallant (2007), the belief scale should have an acceptable internal consistency with a Cronbach alpha coefficient of .70. In the current study, the Cronbach alpha coefficient was .90 thus, the scale had a good reliability. One item, "As an assessment technique, the IQ test." had a value less than .3 in the Corrected Item-Total Correlation statistics which indicated that this item had a different value from the belief scale. This item also appeared as a single factor in the item analysis; therefore, it was removed from the belief scale for the main data collection. The Cronbach alpha coefficient of practice scale was .89. Therefore, it had good reliability in terms of the practice scale. The item "IQ test" has a value less than .3 in Corrected Item-Total Correlation statistics, which indicates that this item has a different value from the practice scale. This item also appeared as a single factor in the item analysis; therefore, it was removed from the practice scale for main data collection. When the main data were examined through reliability analyses, the belief scale had a good reliability with a Cronbach

alpha coefficient of .89 and the practice scale had a Cronbach alpha coefficient of .84.

After conducting the pilot study, Ministry of National Education (MONE) was contacted and the necessary permission to conduct the study and the names of schools and teachers were obtained. Then, the questionnaires were delivered to 247 early childhood education teachers employed in 62 of the 81 authorized public and private centers. 194 questionnaires were used for analyses of data, producing a return rate 78.5%. The analyses were carried out using PASW 18 statistical package.

## Analysis of the Results

The results of the self-reported beliefs data and self-reported practices data were first analyzed using descriptive statistics, including means and standard deviations of self-reported belief and self-reported practice scores, frequency distributions of each item in the beliefs and practice scale. Also the total belief score (TBS) and total practice score (TPS) were computed.

Correlation analysis and analyses of variance were selected as the methods to analyze the research questions. The Pearson correlation was performed to explore the relationships between the total self-reported belief scores, total self-reported practice scores and educational/professional background variables. Independent sample t-tests were performed to compare the participants' TBS and TPS scores in relation to the grade level they taught, number of teaching staff in the classroom, daily work hours, and program type they worked in. One-way ANOVA was employed to examine the relationship between the in-service early childhood education teachers' teaching experience and the level of their education and their TBS and TPS scores. Post-hoc comparisons were also performed to find out which groups were significantly different from one another.

The beliefs section of the Early Childhood Education Teachers' Beliefs and Practices Questionnaire was designed to reveal in-service early childhood education teachers' beliefs about assessment.

### Self-reported Assessment Beliefs

The analysis of the results presented in Table 1 shows that the items which were rated as "very important" by participants were the belief items 17 and 6. Also, items which were rated as "quite important" by participants were belief items 19, 18, 2 and 8. Furthermore, items rated as "important" were the belief items 3, 11, 5 and 10. The results of the analysis indicated that total belief scores (N=194) ranged from 45 to 89 with a mean of 66.30 and standard deviation of 8.44. This means, on average, calculating the mean of the total belief scores' mean (66.30 / 19 = 3.49), the participants tended towards a view of "quite important" in relation to the developmentally appropriate assessment beliefs.

Table 1

*The Percentages of the Responses to Each Question in the Belief Section of Early Childhood Education Teachers' Beliefs and Practices Questionnaire*

| Early Childhood Education Teachers' Responses in Percentage | | | | | | | |
|---|---|---|---|---|---|---|---|
| | unimportant | of little importance | important | moderately important | very important | Total | importance point |
| 17 | - | - | 9,8 | 26,8 | ***63,4*** | 100 | 90,7 |
| 6 | - | - | 10,8 | 33,5 | ***55,7*** | 100 | 89 |
| 16 | - | 1,5 | 23,7 | ***37,6*** | 37,1 | 100 | 82,1 |
| 15 | - | 3,1 | 26,8 | ***36,1*** | 34 | 100 | 80,2 |
| 19 | 1,5 | 2,1 | 27,8 | ***37,6*** | 30,9 | 100 | 78,9 |
| 9 | 1 | 4,6 | 30,9 | 30,9 | ***32,5*** | 100 | 77,8 |
| 18 | 1,5 | 6,7 | 26,8 | ***39,7*** | 25,3 | 100 | 76,1 |
| 2 | 1 | 7,2 | 29,9 | ***36,1*** | 25,8 | 100 | 75,7 |
| 14 | 1 | 11,3 | 30,9 | 22,2 | ***34,5*** | 100 | 75,6 |
| 8 | 1 | 7,2 | 30,9 | ***36,1*** | 24,7 | 100 | 75,3 |
| 13 | 2,1 | 9,8 | 29,4 | 27,8 | ***30,9*** | 100 | 75,2 |
| 3 | 1 | 6,2 | ***39,7*** | 29,4 | 23,7 | 100 | 73,7 |
| 12 | 5,2 | 10,3 | 28,9 | 23,2 | ***32,5*** | 100 | 73,5 |
| 7 | 4,6 | 7,2 | 33 | ***32,5*** | 22,7 | 100 | 72,3 |
| 4 | 2,1 | 11,9 | ***32*** | 31,4 | 22,7 | 100 | 72,2 |
| 11 | 2,6 | 11,9 | ***34*** | 29,9 | 21,6 | 100 | 71,2 |
| 1 | 2,1 | 11,9 | 32,5 | ***36,6*** | 17 | 100 | 70,9 |
| 5 | 4,6 | 13,9 | ***36,6*** | 30,4 | 14,4 | 100 | 67,2 |
| 10 | 5,2 | 12,9 | ***43,3*** | 26,3 | 12,4 | 100 | 65,6 |

Note: Bold print indicates items on preference for teachers' beliefs.

## Self-Reported Assessment Practices

Analysis of the results presented in Table 2 shows that the items which were rated as "very often" by participants were the practice items 7, 8, 15 and 6. Also, items which were rated as "sometimes" by participants were practice items 18 and 19. The results of the analysis indicated that total practice scores (N=191) ranged from 41 to 83 with a mean of 61.03 and standard deviation of 7.95. This means that, on average, calculating the mean of the total practice scores' mean (61.03 / 19 = 3.2), participants tended towards the view of "sometimes" in relation to developmentally appropriate assessment practices.

Table 2

*The Percentages of the Responses to Each Question in the Practice Section of Early Childhood Education Teachers' Beliefs and Practices Questionnaire*

| Early Childhood Education Teachers' Responses in Percentage | | | | | | | |
|---|---|---|---|---|---|---|---|
| Item | Rarely | Seldom | Sometimes | Often | Very Often | Total | Frequency |
| 7 | - | - | 2,1 | *16,5* | ***81,4*** | 100 | 95,9 |
| 8 | 0,5 | - | 9,8 | *30,4* | ***59,3*** | 100 | 89,6 |
| 15 | - | 8,2 | *13,9* | 26,3 | ***51,5*** | 100 | 84,2 |
| 13 | 2,1 | 2,6 | 19,6 | 37,6 | ***38,1*** | 100 | 81,4 |
| 6 | 6,7 | 8,8 | 16,5 | 21,6 | ***46,4*** | 100 | 78,5 |
| 16 | 2,1 | 12,4 | *23,7* | 28,9 | ***33*** | 100 | 75,7 |
| 12 | 4,1 | 4,6 | *33* | ***39,2*** | 19,1 | 100 | 72,9 |
| 3 | 1 | 7,7 | ***37,1*** | *34,5* | 19,6 | 100 | 72,8 |
| 2 | 3,6 | 11,3 | ***32*** | 30,9 | *22,2* | 100 | 71,3 |
| 11 | 4,1 | 18 | 25,3 | 22,2 | ***30,4*** | 100 | 71,3 |
| 14 | 6,2 | 8,8 | 31,6 | ***34,2*** | 19,2 | 100 | 70,3 |
| 1 | 4,1 | 16 | 26,3 | ***33*** | *20,6* | 100 | 70 |
| 17 | 8,2 | 20,6 | ***25,8*** | *22,2* | 23,2 | 100 | 66,3 |
| 5 | 11,5 | 18,8 | 19,3 | ***28,6*** | 21,9 | 100 | 66,1 |
| 4 | 8,2 | 14,9 | ***30,9*** | *29,9* | 16 | 100 | 66,1 |
| 18 | 10,4 | 13 | ***37,3*** | 29,5 | 9,8 | 100 | 63,1 |
| 10 | 16,1 | 17,1 | ***33,7*** | *25,4* | 7,8 | 100 | 58,3 |
| 19 | 24,9 | 14 | ***30,1*** | 17,1 | 14 | 100 | 56,3 |

Note: Bold print indicates items on preference for teachers' practice.

## Relationship between Variables (Self-reported Beliefs, Self-reported Practices and Educational/Professional Background)

To explore the relationship between in-service early childhood education teachers' self-reported beliefs and self-reported practices about assessment and their educational/professional background, correlational analysis were undertaken to compute the Pearson product-moment correlation coefficients. Preliminary analyses were performed to ensure there were no violations of the assumptions made concerning the normality, linearity and homoscedasticity

The results of the correlational analyses revealed that there was a strong, positive correlation between in-service early childhood education teachers' self-reported beliefs and self-reported practices, $r=.65$, $n=191$, $p<.01$ (two-tailed) with higher levels of the self-reported beliefs scores associated with higher levels of the self-reported practice scores. Moreover, a small correlation ($r(194)=.20$, $p<.01$) was found between in-service early childhood education teachers' TBS scores and the number of teachers in the classroom. There was also a small correlation between the in-service early childhood education teachers' TPS scores and number of teachers in the classroom ($r(191)=.20$, $p<.01$). In addition, there was a strong, positive

correlation (r(187)=.65, p<.01) between program type and daily work hours. A somewhat strong, positive correlation (r(191)=.61, p<.01) was found between in-service early childhood education teachers TPS scores and the level of their education, with higher levels of self-reported practice scores associated with higher levels of education. Moreover, the level of education was correlated with the in-service early childhood education teachers' TBS scores (r(194)=.44, p<.01). Furthermore, no educational/professional background variable correlated with another, except for those reported above and shown in Table 3.

Table 3

*Pearson Product-Moment Correlations between Total Belief Scores and Total Practice Scores and Educational/Professional Background Variables*

| | Total Belief Score | Total Practice Score | Grade Level Taught | Number of Teachers in the Class | Work Hours | Teaching Experience | Program Type | Degree Earned |
|---|---|---|---|---|---|---|---|---|
| Total Belief Score | - | | | | | | | |
| Total Practice Score | ,651** | - | | | | | | |
| Grade Level Taught | -,096 | -,092 | - | | | | | |
| Number of Teachers in the Class | ,207** | ,207** | -,099 | - | | | | |
| Work Hours | ,133 | ,122 | ,014 | ,369 | - | | | |
| Teaching Experience | -,09 | -,172 | -,064 | -,135 | -,139 | - | | |
| Program Type | ,042 | ,062 | ,062 | ,304 | ,658** | -,198** | - | |
| Degree Earned | ,444** | ,614** | -,207 | ,233 | -,033 | -,119 | -,172* | - |

** P<0.01(2-tailed)

* P<0.01 (2-tailed)

## Difference in Self-reported Beliefs and Self-reported Practices related to Educational and Professional Background

T-tests and one-way between groups analysis of variance (ANOVA) were performed to investigate whether in-service early childhood education teachers' self-reported beliefs and practices varied due to the grade level they taught, number of teachers in the classroom, daily work hours, program type they worked in, teaching experience and level of education achieved.

### Grade level taught

The grade level that in-service early childhood education teachers taught was divided into two groups (Kindergarten and Preschool), and compared on the TBS scores and TPS scores, using independent samples t-tests. The results of these tests (presented in Table 4) revealed that there were no significant differences in the TBS scores of in-service early childhood education teachers who taught kindergartens (M=67.44, SD=8.15) and teachers who taught preschools M=65.72, SD=8.55; t(192)=1.34. The results also indicated that there were no significant differences in TPS scores of in-service early childhood education teachers who taught in kindergarten (M=62.04, SD=8.24) and teachers who taught in preschool M=60.50, SD=7.78; t(189)=1.26.

Table 4

*Comparison of Total Belief Scores and Total Practice Scores in terms of Grade Level Taught*

| | Kindergarten | | Preschool | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | *df* | t |
| TBS | 67.44 | 8.15 | 65.72 | 8.55 | 192 | 1.34 |
| TPS | 62.04 | 8.24 | 60.50 | 7.78 | 189 | 1.26 |

TBS = Total Belief Scores
TPS = Total Practice Scores
p<.01(two-tailed)

### Number of teachers in the classroom

The category of the number of teaching staff in the classroom was also divided into two groups (without assistant and with an assistant) and compared on the TBS and TPS scores, using independent samples t-tests. The results of independent samples t-tests (presented in Table 5) revealed that there were significant differences in the TBS scores of in-service early childhood education teachers who had no assistant in the classroom (M=64.71, SD=8.35) and the teachers who had an assistant in the classroom M=68.21, SD=8.18; t(192)=-2.93, p=.004 (two tailed). The magnitude of the differences in the means was small ($\eta^2$=.04). Also, there were significant differences in TPS scores of in-service early childhood education teachers without an assistant in the classroom (M=59.51, SD=7.83) and teachers with an assistant in the classroom M=62.80, SD=7.76; t (189) =-2.90, p=.004 (two-tailed). Again the magnitude of the differences in the means was small ($\eta^2$) =.04 which indicates that the differences were of very little practical significance.

Table 5

*Comparison of Total Belief Scores and Total Practice Scores in terms of Number of Teaching Staff in the Classroom*

| | W/o Assistant | | With Assistant | | | | |
|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | df | t | η2 |
| TBS | 64.71 | 8.35 | 68.21 | 8.18 | 192 | -2.93 | .04 |
| TPS | 59.41 | 7.83 | 62.8 | 7.76 | 189 | -2.9 | .04 |

TBS = Total Belief Scores
TPS = Total Practice Scores
$\eta^2$ = Eta squared

### Work hours

To explore the differences in in-service early childhood education teachers' self-reported beliefs and self-reported practices that might exist based on the daily work hours, the working hours were divided into two groups (teachers working 8 or less hours a day and those working more than 8 hours a day) and compared on the TBS and TPS scores, using independent samples t-tests. The results presented in Table 6 show that there were no significant differences in TBS scores of in-service early childhood education teachers working 8 or less hours a day (M=65.34, SD=8.59), and in-service early childhood education teachers working more than 8 hours a day M=67.61, SD=8.35, t(185)=-1.83, p=.069 (two-tailed). The results also showed that, there were no significant differences in TPS of teachers who work 8 or less hours a day (M=60.04, SD=8.18), and teachers who work more than 8 hours a day M=61.98, SD=7.69, t (183) =-1.66, p=.097 (two-tailed).

Table 6

*Comparison of Total Belief Scores and Total Practice Scores in terms of Daily Work Hours*

| | 8 and less hours | | More than 8 hours | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | *df* | t |
| TBS | 65.34 | 8.59 | 67.61 | 8.35 | 185 | -1.83 |
| TPS | 60.04 | 8.18 | 61.98 | 7.69 | 183 | -1.68 |

TBS = Total Belief Scores
TPS = Total Practice Scores

### Program type

The program types that teachers work in were divided into two groups (state and private institutions) and the TBS and TPS scores were compared using independent samples t-tests. The results (presented in Table 7) revealed that there were no significant differences in the TBS scores of the in-service early childhood education state school teachers (M=65.98, SD=8.37), private school teachers M=66.68, SD=8.54; t(192)=-.578, p=.564 (two-tailed). The results also indicated that there

were no significant differences in TPS scores of the in-service early childhood education state school teachers (M=60.56, SD=7.61), and private school teachers M=61.56, SD=8.33; t(189)=-.86, p=.391 (two-tailed).

Table 7

*Comparison of Total Belief Scores and Total Practice Scores in terms of Program Type*

| | Public | | Private | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | *df* | T |
| TBS | 65.98 | 8.37 | 66.68 | 8.54 | 192 | -.578 |
| TPS | 60.56 | 7.61 | 61.56 | 8.33 | 189 | -.860 |

TBS = Total Belief Scores
TPS = Total Practice Scores

### Teaching experience

One–way between-groups analysis of variance (ANOVA) were conducted to explore the differences in early childhood education teachers' self-reported developmentally appropriate assessment beliefs and practice in relation to their teaching experience. To examine the effect of early childhood education teachers' teaching experiences on their self-reported developmentally appropriate assessment beliefs and practice, early childhood education teachers were divided into three groups (Group 1: Early Career - less than 3 years; Group 2: Mid-Career - between 3 and 10 years; Group 3: Veteran - above 10 years). Table 8 presents the results of one-way between-groups analysis of variance reported for beliefs and practice in relation to teaching experience.

Table 8

*One-Way Between-groups Analysis of Variance: Reported Beliefs and Practices Teaching Experience*

| | Total Belief Scores | | | | Total Practice Scores | | | |
|---|---|---|---|---|---|---|---|---|
| | M | SD | F (2, 191) | $\eta^2$ | M | SD | F (2, 188) | $\eta^2$ |
| 0-3 Years Early Career | 65.86 | 7.82 | 7.98* | .07 | 61.51 | 7.93 | 7.52 | .07 |
| 3-10 Years Mid-career | 69.26 | 8.74 | | | 63.12 | 7.20 | | |
| 10> Years Veteran Teachers | 63.16 | 7.88 | | | 57.50 | 7.88 | | |

There was a statistically significant difference in the early childhood education teachers' self-reported developmentally appropriate assessment total belief score for the three teacher groups: F (2,191) = 7.98, $p < .01$. The effect size, calculated using eta square, was .07, indicating a medium effect size. Post-hoc comparisons based on the Tukey HSD test showed that Group 2 (M = 69.26; SD = 8.74) was significantly

higher than both Group 1 (M = 65.86; SD= 7.82) and Group 3 (M = 63.16; SD= 7.88). Groups 1 and 3 were not statistically different in the total belief scores.

There was also a statistically significant difference in the early childhood education teachers' self-reported developmentally appropriate assessment total practice score for the three teacher groups: F (2,188) = 7.52, $p < .01$. The effect size, calculated using eta square, was .07, indicating a medium effect size. Post-hoc comparisons based on the Tukey HSD test showed that Group 3 (M = 57.5; SD = 7.88) was significantly lower than both Group 1 (M = 61.51; SD= 7.93) and Group2 (M = 63.12; SD= 7.20). Group 1 and Group 2 were not statistically different in the total practice scores.

**Level of education**

One–way between-groups analysis of variance was conducted to examine whether there was a difference in early childhood education teachers' self-reported developmentally appropriate assessment beliefs and practice in relation to the level of their education. The teachers were divided into three groups (Group 1: Only completed high school; Group 2: Undergraduate degree; Group 3: Postgraduate degree). The results of one-way between-groups analysis of variance reported for beliefs and practice by the degree can be seen in Table 9.

Table 9

*One-Way Between-groups Analysis of Variance: Reported Beliefs and Practices Earned Educational Degree*

| | Total Belief Scores | | | | Total Practice Scores | | | |
|---|---|---|---|---|---|---|---|---|
| | M | SD | *F* (2, 191) | $\eta^2$ | M | SD | *F* (2, 188) | $\eta^2$ |
| High School | 62.46 | 6.77 | 23.465 | .19 | 56.46 | 6.59 | 58.383 | .38 |
| Undergraduate | 67.92 | 8.06 | | | 62.24 | 6.01 | | |
| Graduate | 72.89 | 8.47 | | | 70.79 | 6.06 | | |

$\eta^2$=Eta Squared

*p>.01

There was a statistically significant difference in the early childhood education teachers' self-reported developmentally appropriate assessment total belief score for the three education groups: F (2,191) = 23.47, $p < .01$. The effect size, calculated using eta square, was .19, indicating a large effect size. Post-hoc tests using the Tukey HSD test indicated that teachers with a graduate degree (M = 72.9; SD = 8.47) was statistically higher than teachers with an undergraduate degree (M = 67.92; SD = 8.06) and those with only high school education (M = 62.46; SD = 6.77) in terms of the total belief scores. Also, early childhood education teachers with undergraduate degrees have a statistically higher total belief score than those who had only completed high school.

There was also a statistically significant difference in the early childhood education teachers' self-reported developmentally appropriate assessment total practice score for the three education groups: F (2,188) = 58.38, $p < .01$. The effect size, calculated using eta square, was .38, indicating a large effect size. Post-hoc comparisons using Tukey HSD revealed that teachers with graduate degree (M = 70.79; SD = 6.06) was statistically higher than those with an undergraduate degree (M = 62.24; SD = 6.01) and those only having completed high school (M = 56.46; SD = 6.59) in terms of the total practice scores. Moreover, early childhood education teachers with undergraduate degree had a statistically higher total practice score than those who only completed high school.

## Discussion

The intention of this study was to add to the limited but growing body of information pertaining to early childhood education teachers' self-reported beliefs and practices with regard to assessment and the relationships that exist among their beliefs, practices and educational/professional backgrounds. This study explored three research questions. The first research question involved the investigation of in-service early childhood education teachers' beliefs about the developmentally appropriate assessment. It is apparent from the results of this study that early childhood teachers believed developmentally appropriate assessment practices "quite important". Considering the common use of traditional assessment practices in Turkish early childhood education programs, this result can be presumed to be very encouraging.

The analysis of the individual assessment belief items showed that early childhood education teachers believed that "play" is one of the most important assessment tools to assess the developmental progress of young children. This result might be attributed to the fact that play is one of the core elements of young children's learning processes. Since play is a very commonly used instructional tool in an early childhood learning environments, teachers can collect a vast amount of information about children's learning and developmental progress. Hyson (2010) asserts that every child has his/her own characteristics and approaches to play. Thus, children's unique characteristics as well as individual differences among children can be observed when they are playing.

The results of the current study also indicated that many in-service early childhood teachers found it very important to elicit information from parents, other teachers and professionals in the school to assess their students. This result may be explained by the early childhood teachers' recognition of children's different developmental characteristics that can be observed in different social contexts. For example, while a child expresses anger by crying at home, he/she may show totally different reactions at school or in classroom. Thus, it is important to collect comprehensive data from different contexts in which the child spends her/his time. Moreover, the teachers might be well aware of value of eliciting the parents' perspectives about their own children, which are different from the teachers understanding of the child. The information that teachers gather from parents

enriches their classroom assessment. Moreover, data collected from other teachers can support the data that the classroom teacher has collected for assessment. A different view increases the objectivity of the assessment decisions. The results of a recent study (Berry, Daughtrey, & Wieder, 2009) about teacher collaboration revealed that teachers who have consistent opportunities to work with successful colleagues improve their teaching effectiveness, and also provide improved outcomes for the students they teach. Finally, teachers pointed out the importance of gathering data from other early childhood professionals since this can provide valuable information to early childhood education teachers when assessing young children. A psychologist, for example, may focus on detailed characteristics of a child's behaviors from the perspective of the psychological development of children. Thus, one particular behavior of a child could be assessed from two different perspectives and this increases the validity of the assessment. In addition, those professionals can have the knowledge and ability to use some instruments for assessment that the early childhood education teacher may be unaware of or not be able to use.

The results also indicated that early childhood teachers agreed on the importance of photographs and sketches as assessment tools. These tools were perceived by the teachers as concrete evidence for the child's developmental and learning progress. In addition, teachers might find these tools important because collecting these types of data for assessment is easier and more practical to use in the classroom when compared with other tools. These tools might also have been considered important by teachers as they can help them save time when conducting classroom observations.

On the other hand, the results also demonstrated that, interestingly, many early childhood education teachers found traditional assessment tools such as workbooks, worksheets, readiness tests and behavior tests not as important as other developmentally appropriate assessment tools. This result is also encouraging as these tools are not considered to be helpful and valid as developmentally appropriate assessment tools (NAEYC, 2009). The other assessment tool that early childhood education teachers found to be not important was rubrics. This might be due to the limitations of the rubrics. McAfee and Leong (2006) asserted that it is difficult to construct good rubrics; teachers may differ in their understanding of a scale, and the biases of the teachers may affect their responses.

The results concerning the second research question indicated that early childhood education teachers sometimes used developmentally appropriate assessment practices in their teaching. Unlike as seen in the examination of beliefs, the analysis of frequency of engagement in developmentally appropriate assessment practices showed more mixed results. Although the early childhood education teachers report strong agreement with developmentally appropriate assessment beliefs, they also report that they engage in both developmentally appropriate and traditional assessment practices. The most commonly reported developmentally appropriate assessment practices in which the early childhood education teachers engaged in were; using play as an assessment tool, eliciting information from

parents, teachers; and other professionals in the school, and using projects as assessment tools. The teachers most commonly reported using worksheets and workbooks, and developmental tests in their traditional assessment. These mixed results might be due to the influences on and/or barriers to the teachers' teaching practices. For instance, some teachers reported that they have to use workbooks and worksheets as the MONE promotes these tools and parents expect their children to be doing drill and practice work in the classroom. So, in order to respond these requests, they use these traditional assessment tools in their teaching. From these responses it can be inferred that the early childhood education teachers are revealing a desire to move from being traditional teachers to educators who use contemporary assessment practices and thus can better align their practices with their beliefs.

The results from the study showed that there was a strong positive correlation between the early childhood teachers' self-reported beliefs and practices with higher levels of the beliefs scores associated with higher levels of the practice scores. This shows that the teachers practice what they believe in terms of developmentally appropriate assessment practices. The relationship between teachers' beliefs and their practices found in this study provides some support for the studies by Buldu (2009), Erdiller and McMullen (2003), Nespor (1987), and Pajares (1992). These researchers suggested that teachers' beliefs influence their practices. Nespor indicates that it has become an accepted idea that teachers' beliefs are vital components of their practice. Pajares asserts that the beliefs teachers hold influence their perceptions and judgments, which in turn, affect their behavior in the classroom. Buldu (2009) expresses that beneath the classroom practices of every teacher is an elaborate set of beliefs that are interwoven into the fabrics of their personal and professional life. Also, research on teachers' thinking by Isenberg (1990), assumes that beliefs that teachers hold influence their practices. Furthermore, Clark and Peterson (1986) stated that teachers' thought process share a reciprocal relationship with their actions which means that there is a close relationship between beliefs and practices.

Moreover, the results indicated a strong positive correlation between the teachers' practice scores and the level of their own education, meaning the higher the level the higher practice scores they received. Thus, this result means the more content knowledge that is gained through obtaining a higher level of education, the more developmentally appropriate assessment practices the teachers implement. The education level of teachers is assumed to be as a determining factor regulating teachers' beliefs on developmental appropriateness (Cassidy et al., 1995; Snider & Fu, 1990; Vartuli, 1999). In another study, McMeniman, Benson, and Alat (2002) found that higher educational level and teachers' internal locus of control were consistently significant predictors for both teachers' beliefs and practices. Thus, teachers' beliefs were higher if they had a higher educational level.

Furthermore, some of the educational/professional background variables that were examined in this study were found to be useful in discriminating among teachers in terms of assessment beliefs and practices. For a number of teachers in the study, the level of education, and teaching experience were found to have an effect

on teachers' assessment beliefs, whereas the grade level taught, number of work hours and program type were not found to be linked to teachers' assessment beliefs. In addition, it was found out that the educational/professional background variables such as the number of teaching staff in the classroom, the level of education and teaching experience were useful in discriminating among teachers on the basis of assessment practice.

The correlation results revealed that there was a small correlation both between the teachers' beliefs and practices in relation to working with a partner or without a partner in the classroom. The number of teachers in the classroom influences teachers' beliefs about assessment practices. This means that teachers feel more comfortable with developmentally appropriate assessment practices when they receive support in the classroom. This might be because the teacher was able to be more flexible in the classroom if there was another teacher or assistant to share the workload. When the child/adult ratio decreases, the teacher can spend more time assessing children. In addition, if the workload is shared the teacher's motivation for teaching and the assessment process might be higher.

The length of teaching experience of teachers was related to a significant difference seen in their self-reported beliefs and practices. Mid-career teachers (3 to 10 years) scores were higher than both early career (0 to 3 years) teachers and veteran teachers (more than 10 years). This might be because a new entrant teacher might be more concerned with following MONE guidelines more strictly and the veteran teachers are unlikely to give up their more traditional methods. The teachers' years of experience may influence their beliefs and practices. The research on the relationship between teacher experience and their classroom practices produced mixed results. Some studies have established a relationship between experience and developmentally appropriate practices (Vartulli, 1999) while others did not (Buchanan et al., 1998). According to McMullen (1999) new teachers were found to talk the talk but not walk the walk and Rust (1994) commented that beginning teachers are more concerned with the personal and social dimension of teaching rather than with their instructional ability.

## Implications and Recommendations

According to findings of this study and previous work concerning developmentally appropriate assessment and related issues, some suggestions can be offered to teachers, teacher education programs and MONE about the use of assessment in education.

The results of this study may help early childhood teachers to reflect on their actions and thinking processes by looking at the beliefs other early childhood teachers hold and the practices they implement in their early childhood classrooms. This may increase their confidence regarding their own teaching beliefs and practice. Regarding teacher education programs, the results of this study provide useful information to those involved in early childhood teacher education program

development. A clear understanding of the assessment beliefs and practices of early childhood teachers and how they differ from each other due to their educational/professional background has implications for the development of early childhood teacher education undergraduate program philosophies as well as for the preparation of early childhood teachers. In addition to teacher education programs, this study revealed that MONE should be aware of the importance and necessity of training programs for all early childhood education teachers about developmentally appropriate assessment so that these teachers can understand the importance of this issue.

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# Metaphoric Perceptions of Primary School Teachers on the Concept of Curriculum

**Mehmet Gültekin***

## Abstract

One of the most important elements in educational system is curriculum. Being comprehensive and multidimensional notion and including the all learning experiences lived by individuals inside and outside school, curriculum plays a role as a bridge that transforms educational politics in a country to practice. Indoubtedly, achieving aimed output in the curriculums depends on how the teachers who will practice the curriculum perceive and practice curriculum. One of the tools to determine teacher perceptions is metaphor. Accordingly, in the study it was aimed to determine the metaphors primary school teachers used regarding "education program" and the study was designed as qualitatively in the survey method. This study was conducted with the participation of 200 primary school teachers from 16 primary schools in the city center of Eskişehir. A questionnaire consisted of open ended questions has been created to determine the views of teachers regarding education program. The questions are generally similar to "Education program is like ….. ; because ……". Teachers' views regarding education program has been analyzed with descriptive analysis technique. Chi-square test was applied in order to evaluate whether the appearing categories differ according to department of the primary school teachers. After the study, it's been seen that teachers created 200 metaphors. These metaphors comprised categories as "set of elements to be prepared carefully", "a changeable structure", "directive", "pressure element", "multidimensional", "complex structure", and "indispensable element". As a result, it has been found out that teachers had positive thoughts regarding curriculum. Also, it was observed that the conceptual categories formed related to the metaphors that teachers use have significant difference according to their departments.

***Keywords:*** primary education, curriculum, teacher, metaphor

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# İlköğretim Öğretmenlerinin Eğitim Programı Kavramına Yönelik Metaforik Algıları

## Öz

Eğitim sisteminin en önemli bileşenlerden biri eğitim programıdır. Bireylerin okul içinde ve okul dışında edindiği tüm öğrenim yaşantılarını içine alan, kapsamlı ve çok boyutlu bir kavram olan eğitim programı, bir ülkedeki eğitim politikasını uygulamaya dönüştüren bir köprü rolü üstlenmektedir. Kuşkusuz eğitim programlarından istenilen verimin sağlanması, programı uygulayacak olan öğretmenlerin program kavramını nasıl algıladıkları ve uyguladıklarına bağlı bulunmaktadır. Öğretmen algılarının belirlenmesinde kullanılan araçlardan biri ise metaforlardır. Bu doğrultuda, araştırmada ilköğretim öğretmenlerinin "eğitim programı" kavramına ilişkin olarak kullandıkları metaforların belirlenmesi amaçlanmış ve araştırma, tarama modelinde nitel şekilde desenlenmiştir. Araştırmanın katılımcılarını, Eskişehir Milli Eğitim Müdürlüğü tarafından belirlenmiş bulunan 16 ilköğretim okulunda görev yapan 200 ilköğretim öğretmeni oluşturmuştur. Araştırmada, öğretmenlerin eğitim programı kavramına ilişkin kullandıkları metaforlar, açık uçlu anket yoluyla toplanmıştır. Ankette ilköğretim öğretmenlerinden "Eğitim programı……. gibidir; çünkü……." cümlesini tamamlamaları istenmiştir. Elde edilen veriler, ilköğretim öğretmenlerinin eğitim programı kavramına ilişkin kullandıkları metaforlar betimsel analiz tekniği kullanılarak; branşları ile eğitim programına ilişkin kullandıkları metaforlar arasında bir ilişki olup olmadığı ki kare tekniği kullanılarak çözümlenmiştir. Araştırma kapsamında elde edilen bulgulara göre ilköğretim öğretmenlerinin eğitim programlarına ilişkin olarak toplam 200 metafor ürettikleri görülmüş; eğitim programına ilişkin olarak "dikkatle hazırlanması gereken ögeler bütünü", "değişken bir yapı", "yönlendirici", "baskı unsuru", "kapsamlı olma", "karmaşık bir yapı" ve "vazgeçilmez bir öge" kategorileri oluşturulmuştur. Sonuç olarak ilköğretim öğretmenlerinin eğitim programı kavramına ilişkin algılarının genelde olumlu olduğu ve ilköğretim öğretmenlerinin branşları ile eğitim programına ilişkin kullandıkları metaforlar arasında bir ilişki olduğu ortaya çıkmıştır.

***Anahtar Sözcükler:*** ilköğretim, eğitim program, öğretmen, metafor

## Introduction

Among the most important elements of educational system, curriculum is an action plan that provides individuals with a learning environment where they gain learning experiences and make use of these experiences. In general, the main component consisting of arrangement of learning experiences (Demirel, 2007) is the teacher. Even though a curriculum is prepared to achieve the best, the quality of its application depends completely on how the teacher perceives it. In other words, how the teacher perceives the curriculum is the main variable on how he would apply it. Thus, the perceptions of teachers concerning the curriculum are highly important. One of the tools to determine teacher perceptions is metaphor.

The term metaphor has been derived from the Greek word "metapherein"; meta means change, and pherein means endure (Levine, 2005). In Turkish it is defined as "using a word or a notion to mean something that is out of the accepted meaning" (TDK, 2013). Lakoff and Johnson (2005, p. 25) on the other hand define metaphor as "a thought material, a type of human understanding, and not only a figure of speech but at the same time a figure of thought. Moreover, Arslan & Bayrakçı (2006, p. 100) define metaphor as labeling a phenomena or a concept with more familiar and known terms. Miller (1987) interpreted metaphor as "the language of experiences" since they help people make individual experiences more meaningful (Cited in: Saban, 2004).

Metaphors are in close relationship with individuals' cultures. Human language is a structure of culture, and since metaphors are formed as a product of individuals' language, they are wholly affected by the culture of the individuals (Kövecses, 2005). Teachers use metaphors unconsciously most of the time in order to explain thoughts, concepts, and abstract notions, or make use of similar applications in their daily lives (Arslan & Bayrakçı, 2006). Moreover, metaphors have the ability to reveal true information. In the process of metaphor use, individuals, by forming relations with their own life and experiences, tend to express truth and reality consciously or unconsciously (Lakoff & Johnson, 2003).

Metaphors, the main function of which is "to recognize", are used as a way of experience and understanding in teaching learning applications and reflecting thoughts (Woon & Ho, 2005). Most of what we say about concepts, and how we form our thoughts mostly depend on our use of the metaphors. Metaphors help us construct our understanding and thoughts related to events in life (Perry&Cooper, 2011).

As Booth (2003) put forward, the meaning that metaphors define could change the context in some degree; the meaning value of metaphors is more emphasized than the real meaning values; at the same time metaphors hold relative and social meaning values; metaphors that individuals utter carry clues about the personality of the individual; they create a deeper thought in the individual; they could be used as a tool in defining character and culture; and lastly metaphors have functions in different science branches as data collection tools (Cited in: Girmen, 2007, p. 11).

Nesterova (2001) defined the functions of metaphors as follows: (1) Naming; reforming the meaning, enhancing the language, (2) Forming abstract concepts; explaining concrete concepts in abstract thoughts, (3) Directing; helping to form new concepts by shaping metaphorical experiences and trying to understand other concepts with the help of these new concepts, (4) Production of new information; helping to learn unknown with the help of known truth, (5) Psychological effect; by adding psychological specialties to plain meanings trying to help other understand the concept. (6) Diversifying Paradigms; metaphors help form new concepts by opening up new perspectives, (7) Communicative and educational function; helps people with different characteristics to form communication easily, (8) Metaphor is a game of tongue; individuals can create their own metaphors to spread their own concepts.

When definitions and functions related to metaphors are considered, metaphor is forming of abstract and meaningful new images and concepts out of concrete concepts by combining individual senses and thoughts with experiences. Metaphors facilitate the duties of educational partners along with providing opportunities such as individuals' explaining ideas with new words by enriching their expressions.

It is known that people use metaphors too often. Individuals make use of metaphors in family relations, explaining some events and activities to other people, and to talk about good events along with revealing negative thoughts (Zanotto, Cameron & Cavalcanti, 2008). Moreover, improvement of some skills needs the use of metaphors (Cortazzi & Jin, 1999).

Metaphors are one of the tools used in explaining complex concepts and facts in education (Semerci, 2007). As a matter of fact, in the explanation of some concepts and facts metaphors are used in education. In this respect, metaphors related to concepts of teacher (Karadag & Gultekin, 2012; Alacapınar, 2011; Yıldırım, Unal & Çelik, 2011; Tasdemir & Tasdemir, 2011a; Michael & Katerina 2009; Pektas & Kılan, 2009; Cerit, 2008; Celikten, 2006; Saban, 2004; Ben-Peretz, Mendelson & Kron 2003¸ Lasley, 1994; Oxford, Tomlinson, Barcelos, Harrington, Lavine, Salehet.al., 1998; Clarken, 1997); teaching and learning (Font, Bolite & Acevedo, 2010; Saban, Kocbeker & Saban, 2006; Levine, 2005; Guerrero & Villamil, 2002; Martinez, Sauleda & Huber, 2001); teaching (Taşdemir & Taşdemir, 2011; Mahlios, Shaw & Barry, 2010; Carter & Pitcher, 2010; Kasoutas & Malamitsa, 2009; Girmen, 2007; Massengill, Mahlios, & Barry, 2005; Price, 2002; Bullough, 1994; Bullough & Stokes, 1994); school (Ozdemir, 2012a; Saban, 2008; Aydoğdu, 2008; Engin-Demir, C. 2007; Inbar, 1996; Hardcastle, Yamamoto, Parkay & Chan, 1985); learning (Elmholdt, 2003); classroom management (Akar & Yıldırım, 2009); professional development (Hasim, Mohtar, Barnard & Zakaria, 2013; Thomas & Beauchamp, 2011; Goldstein, 2005; Bullough & Stokes 1994; Bullough 1994); curriculum development (Semerci, 2007) were determined.

There is a limited number of studies in explaining the use of metaphors in curriculums. Ozdemir (2012b) and Gultekin (2013) determined teacher candidates',

Tasdemir & Tasdemir (2011b) teachers', Aykaç & Çelik (2011) teachers' and teacher candidates' metaphors related to curriculums. Semerci (2007) on the other hand tried to find out about metaphorical perceptions of teachers related to primary curriculums. In addition to the above mentioned studies, Anglin & Dugan (1982) studied metaphorical perceptions.

Metaphors are among the strong tools that can be used in determining teachers' perceptions about curriculum concept. Thus, it is important to reveal the perspectives of the teachers who apply the curriculums in the education system.

This study has another importance since it is one of the first studies held on primary school teachers, and since it tries to reveal whether there is significant difference between the perceptions of classroom teachers and branch (in-field) teachers on curriculum concept. This study is expected to make precious contributions to curriculums and education field along with the limited number of research centers.

The aim of this study is to determine the metaphors primary school teachers used regarding curriculum. In this respect following research questions were asked:

- What are the metaphors primary school teachers create concerning the curriculum?
- In what categories are the metaphors they created about curriculum collected?
- Is there a statically significant relationship between the categories formed related to the metaphors and the field of study of primary school teachers?

## Method

This study, which aims to determine metaphors the primary school teachers use on "curriculum", is a qualitative study. The metaphors used by the teachers are obtained by a survey consisting of open-ended questions.

### Participants

The study was held with teachers working in state and private primary schools under the supervision of Directorate of National Education in Eskisehir. In the scope of the study, teachers working in 16 primary schools, located in the district of Uluönder determined by the Directorate of National Education in Eskisehir, participated in the study. Since one of the schools in this region was closed, it was excluded from the study.

The characteristics of teachers participated in the study are presented in Table 1.

Table1

*The Characteristics of Teachers Participated in the Study*

| Features | f | % |
|---|---|---|
| **Gender** | | |
| Female | 137 | 68,5 |
| Male | 63 | 31,5 |
| **Seniority** | | |
| Less than a year | 5 | 2,5 |
| 1-5 years | 18 | 9 |
| 6-10 years | 55 | 27,5 |
| 11-15 years | 46 | 23 |
| 16-20 years | 29 | 14,5 |
| 21 years and over | 47 | 23,5 |
| **Field of Study** | | |
| Classroom Teacher | 103 | 51,5 |
| In-Field (branch) Teacher | 97 | 48,5 |
| **Total** | **200** | **100** |

As presented in Table 1, 68,5% of the teachers are female, and 31,5% are males. Most of the teachers (27,5%) participated in the study have a seniority of 6-10 years, 23,5% of them have 21 years and over seniority, and 23% have 11-15 years. 51.5% of the teachers from whom the data were collected were classroom teachers and 48,5% of them were in-field teachers.

## Data Collection

In order to reveal the thoughts of teachers participated in the study about the concept of curriculum, a questionnaire consisting of open-ended questions was prepared. The questionnaire was given to experts in the field and final version was determined.

The questionnaire consists of two parts. The first part consists of questions about personal information like gender, seniority in the job, and field of study. In the second part of the questionnaire, teachers were expected to complete the sentences such as "The curriculum is like ……..; because ……."

## Data Analysis

Perceptions of the teachers about the concept of curriculum were analyzed through content analysis method. In this respect, the process of analyzing and interpreting the created metaphors was as follows; determining the metaphors, classifying the metaphors, developing categories, ensuring validity and reliability.

In order to determine the metaphors related to the concept of curriculum used by the teachers, their answers were examined in detail, and the researcher determined the metaphors they used. In the step of determining the metaphors, it was examined to see whether a metaphor related to curriculum was significantly used or not. Then papers without metaphors or those not related to any kind of metaphors were

excluded. In the classification of metaphors step, metaphors created by teachers were reviewed once more, and the ones with similar qualities were grouped. The result of the analysis revealed that some teachers were not able to create expected type of metaphors in terms of metaphors and the relation of these metaphors with curriculum. Thus, 200 of the metaphors created were accepted and 31 of them were excluded based on the reasons such as insignificant metaphors, no definition, or insufficient definition. The categories were formed by keeping the relations between metaphors and curriculum together with metaphors created by teachers. Some of the teachers created same metaphors related to curriculum. Nevertheless, some of these metaphors were put under different categories since they define the relation formed with curriculum differently. Metaphors with similar qualities were put under same categories. In order to ensure reliability, formed categories and metaphors were given to another expert in the field, and analyzed by him. After the analysis, comparisons were made, the metaphors where there is difference in opinions were discussed, and categories were finalized.

After metaphor analysis, personal information and categories of metaphors were transferred to SPSS statistical analysis curriculum. Then, to see whether there is a significant relationship between branches of teachers and categories related to curriculum, chi-square analysis was administered.

The research findings, which were finalized at the end of all the analyses applied, were presented in parallel with research aims. In this respect, categories formed about curriculum were presented in figures; metaphors forming the categories were presented in charts and interpreted with direct quotations from teachers. Lastly, teachers' branches and categories formed about curriculums were presented through percentages and frequencies, and interpreted.

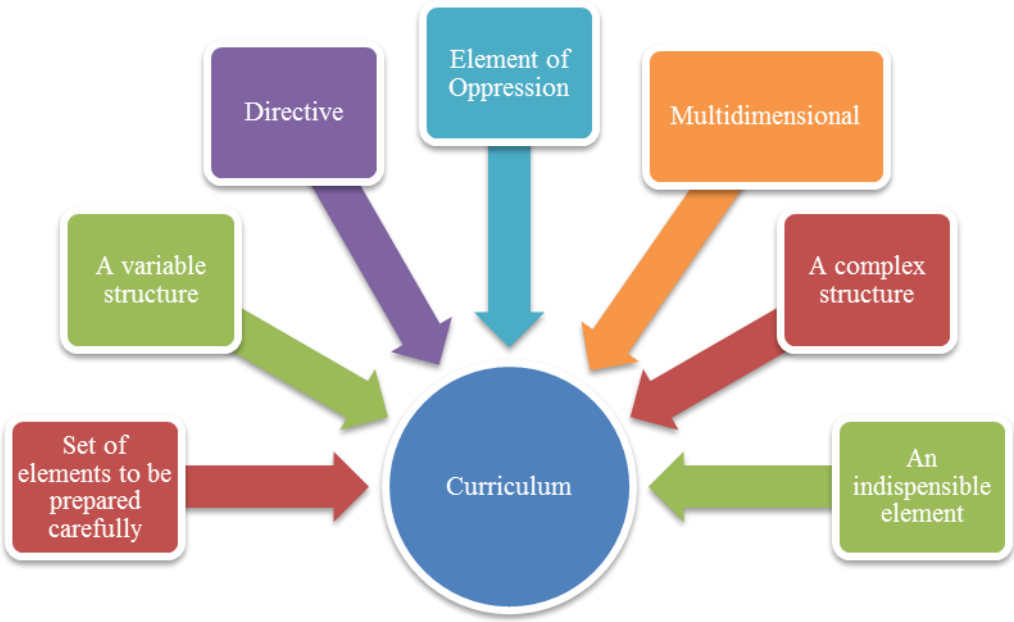
## Findings

In this part, findings of analysis to find out whether there is a significant relationship between categories formed by metaphors created by primary education teachers about curriculums and categories formed by primary school teachers' branches were presented.

Metaphors that primary school teachers created about curriculum are presented in Figure 1.

Figure 1

*Categories formed about Curriculum*




As seen in Figure 1, categories such as set of factors to be prepared carefully, a variable structure, directive, element of oppression, multidimensional, a complex structure, and an indispensable element were formed concerning the metaphors primary school teachers created about the concept of curriculum. Metaphors forming these categories were presented in charts with their frequencies. Metaphors collected under elements to be prepared carefully are presented in Table 2.

Table 2

*Metaphors Related to Elements to be Prepared Carefully*

| **Factors to be prepared carefully** | | | | | |
|---|---|---|---|---|---|
| **Metaphor** | **f** | **Metaphor** | **f** | **Metaphor** | **f** |
| Medicine | 1 | Tree | 5 | House | 1 |
| River | 4 | Jigsaw puzzle | 1 | Juggler headpins | 1 |
| Flower | 1 | Chess | 1 | Train | 2 |
| Plant | 1 | Soil | 1 | Chain | 1 |
| Baby | 2 | Military force | 1 | Road | 3 |
| Garden | 3 | Parent labor | 1 | Food | 2 |
| Treatment | 1 | Car | 1 | Nature | 1 |
| Scientist | 1 | Organism | 1 | Army of ants | 1 |
| Honeycomb | 1 | Clock | 3 | Food recipe | 1 |
| Building | 2 | Cake | 1 | Image | 1 |
| Baklava | 1 | DNA | 1 | Dictionary | 1 |
| Olympic pool | 1 | Octopus | 1 | Elevator | 1 |
| Ferris wheel | 1 | Machine | 1 | | |
| Yoghurt ready to be yeasted | 1 | Rotor gear | 1 | | |
| **Total** | | | | | **57** |

As seen in Table 2, most frequent metaphor in elements to be prepared carefully category is tree (f=5). This metaphor is followed in the order of frequency by river (f=4), garden (f=3), clock (f=3), road (f=3), baby (f=2), building (f=2) and food (f=2). Most of the metaphors found in the category were repeated only once. While one of the teachers who associated curriculum with "medicine" stated "Correct and sufficient medicine heals, but wrong and excessive use gives harm. Curriculums, similar to medicine, should be arranged with a great balance….", one of the teachers who associated curriculum with a tree said;

> "*If cared and given sufficient amount of attention, the students it raises would be character-wise*".

Another teacher who resembled curriculum to a "building" suggested;

> "*The stronger and well-made a building is, the stable it is against disasters and earthquakes, just like a curriculum*".

While another teacher associated curriculum with "clock" stated that;

> "*Curriculum consists of a whole and its pieces that concerns a student's complete education life. Each class and each course available in curriculum is like gears of a clock. If any one of these gears were placed in a wrong spot, it wouldn't show the time correctly…*"

A teacher who associated curriculum with "DNA" said;

> "*All the characteristics of an individual is hidden in his DNA, curriculum consist of items which try to bring those characteristics to surface*".

Another teacher who resembled curriculum to a "road", on the other hand, claimed;

> "*…Curriculum is a road with borders on each side. If your vehicle is good, if you have enough gas, in other words, if it is a whole with some items, then this road could be used. The borders of curriculum are also clear; the student can get to the target using this road*".

By taking the teachers' metaphors on the concept into consideration, it could be said that the preparation of a curriculum should be planned carefully; that a curriculum is a whole with its different items; and that a curriculum is like a frame with limited borders.

Metaphors related to curriculum under "a variable structure" category are presented in Table 3.

Table 3

*Metaphors Related to a Variable Structure Category*

| A Complex Structure | | | | | |
|---|---|---|---|---|---|
| **Metaphor** | **f** | **Metaphor** | **f** | **Metaphor** | **f** |
| Chamaleon | 10 | A Guinea Pig | 3 | Car | 1 |
| Puzzle | 12 | Time Bomb | 1 | Fire in a Chimney | 1 |
| Windmill | 1 | Story | 1 | Child | 1 |
| Dough | 4 | Coat | 1 | Lamb | 1 |
| Rag Bag | 2 | A Ship without a | 1 | Plane | 1 |
| Fashion | 1 | Human | 3 | Bird | 1 |
| Toy Block | 1 | Stage | 2 | Medicine | 1 |
| Tire | 4 | Battery Charger | 1 | Cell | 1 |
| Food made by women | 1 | Sunflower | 1 | Table | 1 |
| **Total** | | | | | **59** |

As seen in Table 3, when metaphors available in a variable structure category are ordered from the most frequent to the least, the order is as follows: puzzle (f=12), chameleon (f=10), dough (f=4), tire (f=4), a guinea pig (f=3), human (f=3), stage (f=2), and rag bag (f=2). Other metaphors placed under this category are all repeated only once. While one of the teachers who resembled curriculum to a puzzle stated his opinion as;

> "*Every new comer changes something…*" another one said, "*It breaks very often, and tried to be fixed again and again*".

A teacher who resembled curriculum to a "chameleon" stated;

> "*Frequent changes are made. There are no long-term curriculum…*"

Another teacher claimed;

> "*It should keep up with current conditions.*"

While a teacher associates curriculum with "a guinea pig" by saying;

> "*It is always changed, new things are added without being piloted first.*"

Another teacher claims;

> "*… If you put more wood into a fire, it would heat you more, otherwise the fire will die out. The same applies to curriculum as well, if new things are not added, or updated, it will not do any good, it would die out as the fire does", by associating curriculum to "a fire in the chimney*".

By taking the teachers' associations concerning curriculum, it could be said that teachers have opinions that curriculum are flexible, and change rapidly. However, some teachers evaluate this situation positive since it allows them to follow innovations and improvements, on the other hand, other teachers consider it negative

since many changes are made very often, and it changes according to people who are in charge of managing the process change frequently. Metaphors related to curriculum under "directive" category are presented in Table 4.

Table 4

*Metaphors Related to "Directive" Category*

| **Directive** | | | | | |
|---|---|---|---|---|---|
| **Metaphor** | **f** | **Metaphor** | **f** | **Metaphor** | **f** |
| Guide | 2 | Map | 2 | Jeweller | 1 |
| Compass | 4 | Lead | 1 | Sculptor | 4 |
| Assistant | 1 | Sun | 2 | Wind | 1 |
| Flashlight | 1 | Traffic Sign | 1 | Water | 1 |
| Lighthouse | 2 | Instruction | 1 | Master | 1 |
| Light | 2 | Wheel | 1 | | |
| **Total** | | | | | **28** |

As seen in Table 4, the most frequent metaphors are compass (f=4) and sculptor (f=4). These are followed by guide, lighthouse, light, map and sun metaphors. One of the teachers who resembled curriculum to "compass" stated his opinion as;

> "*It is a beacon for a teacher. The target and the spot to be reached are determined by curriculum*…."

Another teacher said;

> "*Curriculum is a beacon in the education process, if it shows the correct direction, it will take you to the target. If your compass is not showing the correct direction, then you will take a wrong path*."

One teacher who resembled this concept to "guide" claimed;

> "*Those who have a correct and successful guide would reach their aims slow but sure…*"

One teacher who likened curriculum with "master" said;

> "*Masters can give any shape to the dough, likewise curriculum can shape a student, and direct him…*"

A teacher who resembled curriculum to a "sculptor" said;

> "*Directing the behaviors that a student who comes to school should gain in order to be ready for life through curriculum can be resembled to a sculptor's shaping a marble piece to a meaningful shape*."

While a teacher who related curriculums with flashlight said;

"*A good flashlight helps us see our way in the dark better. It helps us get to our target easily, it directs us…*"

Another teacher who likened curriculum with "light "explained his opinion as;

" *… Well-prepared curriculum are directive as a strong light that enlightens the environment…*"

Taking these expressions into consideration, it can be said that teachers think that curriculum is a beacon, shaper and a guide in reaching the targets and having students gain desirable behaviors. Element of oppression category which was formed related to curriculum is shown in Table 5.

Table 5

*Metaphors Related to Element of Oppression Category*

| Element of Oppression | | | | | |
|---|---|---|---|---|---|
| **Metaphor** | **f** | **Metaphor** | **f** | **Metaphor** | **f** |
| Turtle | 4 | Consisted of choices | 1 | Disabled person | 1 |
| Mouse | 1 | Empty Glass | 1 | Race Horse | 3 |
| Basket | 1 | Jockey | 1 | Bee | 2 |
| Lame Duck | 1 | Medal | 1 | Fraction | 1 |
| A Drop in the Bucket | 1 | Parrot | 1 | Sisyphus | 1 |
| **Total** | | | | | **21** |

As seen in Table 5, the most common metaphor occurred to be turtle (f=4). This metaphor was followed by race horse (f=3), and bee (f=2). Other metaphors in the category seemed to be repeated only once. One teacher resembling curriculum to "a turtle" expressed his opinion as;

"*Subjects and activities in curriculum is so immense that students are squeezed under it, and they cannot carry the load. Just like the shell on a turtle. Moreover, teachers race to raise them….*"

Another teacher stated his opinion by saying;

"*It takes a long time for a turtle to reach its target, the curriculum is so immense that students' reaching their targets is difficult and time consuming…*"

One teacher who likened curriculum with "race horse" stated his opinion by saying;

"*The system is dependent on examinations, so we apply the curriculum by running around like a race horse does…*"

Another teacher suggested;

> "*Education turned out to be a system which only considers the results, what students do in the process is completely ignored.*"

A teacher resembled the education to a bee and said;

> "*There is no spare time, holiday, sleep in education, likewise bees make honey, the curriculum is also very immense.*"

Another teacher who said education is like an "empty glass" uttered;

> "*Curriculum is something in which the look outside of is attractive, but evaluated by tests with a structuralist education aim in mind, thus self contradictory; students are squeezed under performance works; decorated with flowers, but having the same content…*".

When the metaphors the teachers uttered for this category taken into consideration, it can be said that they find the content of the curriculum too loaded, the evaluation system is not suited to the curriculum, thus the curriculum has turned out to be an element of oppression. Metaphors related to multidimensional category about curriculum are presented in Table 6.

Table 6

*Metaphors Related to Multidimensional Category*

| **Being multidimensional** | | | | | |
|---|---|---|---|---|---|
| **Metaphor** | **f** | **Metaphor** | **f** | **Metaphor** | **f** |
| Mother | 1 | Camera | 1 | Polyphonic Chorus | 1 |
| Supermarket | 1 | Musical Instrument | 1 | Rainbow | 1 |
| Peacock | 1 | Sea | 2 | Rain Drop | 1 |
| Song | 1 | Shopping | 1 | | |
| Tree | 4 | Universe | 1 | | |
| **Total** | | | | | **17** |

As seen in Table 6, only tree (f=4), and sea (f=2) are repeated more than once in multidimensional category. While one teacher who resembled curriculum to a "tree" stated his opinion by saying;

> "*The branches of a tree and their being long or short is similar to subjects in the curriculum…*"

Another teacher expressed;

> "*Curriculum is like a tree which has a lot of branches and leaves. Branches and leaves placed on a main body are subjects in the curriculum*".

As one teacher resembled curriculum and said;

"*… curriculum should be just like a mother. It should consider every kind of differences, defects, and conditions, but should not differentiate any of them…*"

Another teacher who related curriculum with "shopping" said;

*"…just like having too much products in store address to the consumers, the variety of subjects in the curriculum address the students.*"

Moreover, a teacher who resembled curriculum to a "rainbow" stated his opinion by saying;

"*It has all the colors, both main and secondary colors. Each color has its own characteristics, likewise each subject in the curriculum…*"

By taking the metaphors the teachers uttered in being multidimensional category, it can be said that they think different subjects in the curriculum is a richness, and important since they address to different students.

A complex structure category related to curriculum is presented in Table 7.

Table 7

*Metaphors Related to "a Complex Structure" Category*

| **A Complex Structure** | | | | | |
|---|---|---|---|---|---|
| **Metaphor** | **f** | **Metaphor** | **f** | **Metaphor** | **f** |
| Puzzle | 1 | Tangled hair | 1 | Mixer | 1 |
| Labyrinth | 3 | İliad | 1 | Outer Space | 1 |
| Woman | 1 | Fractal | 1 | Camel | 1 |
| **Total** | | | | | **11** |

As seen in Table 7, only labyrinth (f=3) metaphor was repeated more than once in "a complex" structure category. Other metaphors placed in the category were only expressed once. While a teacher related curriculum with "labyrinth" stated;

"*It is complex, in order to find the way out and reach the target one should walk around a lot.*"

Another teacher claimed;

"*The curriculum is in a complex structure, you have hard time finding the way you have to follow.*"

A teacher who resembled curriculum to "the Iliad" expressed his opinion by saying;

> "*It seems like it was written with very long sentences to make people not understand it*".

A teacher resembling the curriculum to a "puzzle" claimed;

> "*It is like a puzzle which is hard to solve, in order to find the truth it should be thought multi-directional, and spend time on it.*"

A teacher who used "outer space" for the resemblance suggested;

> "*There is too much unknown about it. It covers everything, and it is full of details ranging from the general to the specific.*"

When metaphors in this category are taken into consideration, the teachers believe that it is hard to understand the curriculum, and the application of it is very complicated. Metaphors concerning "an indispensable element" category related to curriculum are presented in Table 8.

Table 8

*Metaphors Related to "an Indispensable Element" Category*

| **An Indispensable Element** | | | | | |
|---|---|---|---|---|---|
| **Metaphor** | **f** | **Metaphor** | **f** | **Metaphor** | **f** |
| Basic Needs | 1 | Sun | 1 | Water | 1 |
| Gold | 1 | Skeleton | 2 | Oxygen | 1 |
| **Total** | | | | | **7** |

As seen in Table 8, there are 6 metaphors in "an indispensable element" category. However, only skeleton (f=2) of these metaphors is repeated more than once. One of the teachers who resembled curriculum to "skeleton" stated;

> "*Since skeleton is the most important element that forms our physical structure that holds us standing, curriculum is an indispensable structure that shapes our education, gives it life, and holds it standing…*"

Another teacher resembled curriculum to "oxygen";

> "*How skeletons of living creatures help them stand, and make them move, and it is the most basic constitution of living creatures, curriculum are the same for us. A teacher who states his opinions, as "an curriculum with qualities like being directive, and being convincing is necessary for education, it is as necessary as oxygen for body…*"

One of the teachers who associated curriculum with "sun" said;

"*Whenever the kids want, it warms them, since sun is necessary for the kids, curriculum is necessary for education.*"

Another teacher who likened curriculum to "water" claimed;

"*Water lets plants, human beings, living creatures live, likewise, curriculum brings education to life.*"

When all these metaphors created by the teachers concerning the curriculum are considered, it can be said that teachers think curriculum is necessary and indispensable for a quality education.

When all the metaphors related to curriculum is taken into consideration, it is seen that teachers take the subject into consideration from different aspects of it. While some teachers drew the attention to its positive aspects like being multidimensional, being indispensable, being directive, etc., others consider its negative sides like its being complex, being oppressive, etc. Moreover, some teachers made statements about its structure by indicating that it should be prepared carefully, it should be a system that is open to change and systematic.

The results of chi-square analysis conducted in order to reveal whether there is a significant relationship between the teachers' branches and the formed categories are presented in Table 9.

Table 9

*The Relationship between Teachers' Branches and Categories*

| Category / Branch | | Factors to be prepared carefully | A variable structure | Directive | Element of oppression | Multidimensional | A complex structure | An indispensible element |
|---|---|---|---|---|---|---|---|---|
| **Classroom Teacher** | N | 23 | 37 | 17 | 13 | 6 | 6 | 1 |
| | % | 22,3 | 35,9 | 16,6 | 12,6 | 5,8 | 5,8 | 1 |
| **In-Field Teacher** | N | 34 | 22 | 11 | 8 | 11 | 5 | 6 |
| | % | 35,1 | 22,7 | 11,3 | 8,2 | 11,3 | 5,2 | 6,2 |

As seen in Table 9, most of the teachers (35,9%) think that curriculum has a variable structure. Only 1% of the classroom teachers claim that curriculum is indispensable. Moreover, 22,3% of the classroom teachers reclaim that curriculum is a set of factors to be evaluated carefully, 16.6% consider it to be directive, 12.6% element of oppression, 5.8% multidimensional, and again 5.8% consider it to be complex. Most of the field teachers (35,1%), on the other hand, consider curriculum

to be a set of factors to be prepared carefully. A small number of field teachers (5,2%) consider curriculum to be a complex structure. Additionally, it was also revealed that among the field teachers 22,7% consider curriculum to be variable, 11,3% directive, again 11,3% multidimensional, 8,2% element of oppression, and 6,2% an indispensable element. Accordingly, while most of the classroom teachers consider curriculum to be in a variable structure, most of the field teachers perceive it to be a set of factors to be prepared carefully. As a matter of fact, the results of chi-square analysis revealed that there is a significant relationship between the categories formed related to curriculum and the branches of the teachers [$X^2$ =13,378, p<.05].

## Results and Discussion

In literature, curriculum concept, like the other concepts related to education, is also described using metaphors. As a matter fact, Varış (1996, p. 12) uses "bridge" metaphor while explaining the function of curriculum in the system by saying "curiculums play the role of a bridge in spreading and realizing national education politics that is based on the development of Turkish nation in unity and integrity to the furthest part of the country". In his study called "The Metaphorical Roots of The Program" Klebard used "production", "travel" and "cultivation" metaphors while explaining curriculum concept. Curriculum is a production because student is a raw material to be processed. Curriculum is travel because the education process is a travel for students. Curriculum is cultivation because student is a member of plant community that should be growing in the garden (Baptist, 2002). Baptist (2002), based on cultivation metaphor used by Klebard, tries to explain curriculum with "garden" metaphor, and draws the attention to the similarities between garden and curriculum. Style (1996), on the other hand, explains curriculum with "window and mirror" metaphors. According to him, curriculum has the function of window and mirror because curriculum allows the child to see him and multi-cultured world.

In this study aimed at to determine the perceptions of primary school teachers about curriculum through metaphors, it was observed that primary school teachers created 200 different metaphors. These metaphors that teachers created revealed that they resemble curriculum to different creatures, objects, and concepts. It was also noted that primary school teachers explained curriculums with metaphors like "chameleon, puzzle, tree, compass, turtle, river, sculptor, labyrinth, garden, a guinea pig, human, clock, sun, and road".

The metaphors such as "puzzle, turtle, car, nature, child, flashlight and food" that primary school teachers created related to curriculum in this study were also created in the study conducted by Tasdemir and Tasdemir (2011b). Similarly, the metaphors, "tree, puzzle, DNA, cell, octopus, map, flashlight, sun, soil, train, water, fashion, a guinea pig, car, camera", were created in the study conducted by Ozdemir (2012b) on teacher candidates. Moreover, the metaphors, "basic needs", "food recipe", and "father and mother labor", are similar to the metaphors "basic", "rain", cook book", and "mother and father", created in the study conducted by Ozdemir (2012b). On the other hand, metaphors, "sun", "tree", "compass", "child", and

"guide" created in this study for curriculum were created for curriculum improvement in the study conducted by Semerci (2007).

Seven categories, "set of factors to be prepared carefully", "a variable structure", "directive", element of oppression", "multidimensional", "a complex structure", and "an indispensable element", were formed in the study from the metaphors primary school teachers created. In Ozdemir's (2012b) study on teacher candidates eight categories appeared as "an organization/mechanism that was formed orderly and hierarchically; a process that is directive; a vehicle to reach a significant aim; a proposal prepared in terms of a rule, principle, or aim; an indispensable element; a pattern that shapes individuals, and a concept which is changed regularly. The findings of these two studies overlap. In this respect, "directive", and "an indispensable element" categories fully overlap, and others are similar.

Moreover, the categories formed in this study are similar to the four categories appeared in the studies conducted by Wahyudi (2007) and Schubert (1986) as "a planned activity curriculum, content or subject field, desired results, and basic duties and concepts" which were determined to be an curriculum.

According to the findings of the study, primary school teachers noted in the category of "set of factors to be prepared carefully", it could be said that the preparation of a curriculum should be planned carefully and secondly a curriculum should be a whole with its different items; and finally a curriculum should have a frame with limited borders.

In "a variable structure" category primary school teachers seemed to have opinions that curriculum is flexible and changes rapidly. In this respect, some teachers found it positive since it allows them to follow innovations and improvements closely, but some found it negative since sudden changes occur and since the curriculum has to be changed with the change of each director. In "directive" category, teachers thought that curriculum has the qualities of directive, formative, and guiding in helping students gain the desirable qualities, and in reaching its aims. As for "Element of Oppression" category, the teachers found the content of the curriculum loaded, the examination curriculum not suitable to the given curriculum, and thus create a kind of oppression on both teachers and students. When the metaphors that teachers mentioned under "Multidimensional" category, it was seen that teachers believe the different subjects are a kind of a richness, and it is important that the curriculum addresses the needs of different students. In "a complex structure" category, it was seen that the teachers think the curriculum is difficult to understand, and confusing to apply. Moreover, as for the "an indispensable element" category, the teachers find curriculums necessary and indispensable for a qualified education system.

"Element of oppression", "a complex structure", and "a variable structure" categories which emerged from metaphors the teachers created, revealed that the curriculum is complex and forms an oppression on teachers. In this respect, teachers

preferred to use negative metaphors concerning the curriculum like "labyrinth, chameleon, puzzle, time bomb, a ship without a compass, rag bag, a Guinea pig, turtle, race horse, lame duck, consisted of choices, parrot, etc." Similarly, in Tasdemir and Tasdemir's (2011b) study metaphors such as"scratch pad, turtle, blank sheet, muppet, chameleon, refrigerator, war, waterleaf, etc." appeared; Ozdemir's (2012b) study reported "fashion, a Guinea pig, chaos"; Aykac and Celik's (2011) study displayed "slave, oligarchic structure, an empty box, salary food, dirt cloth, a lost kid, a planet without an orbit, etc"; and Semerci's (2007) study demonstrated "moss-covered lake, dream, a child with an unformed personality, a failed operation, diesel oil in the sea, and snowball" as negative metaphors.

The results of this study revealed that primary school teachers mostly used positive metaphors concerning the curriculum. This finding of the study is consistent with the finding in Ozdemir's (2012b) study that teacher candidates generally have positive perceptions concerning the curriculum. On the other hand, the results of this study is inconsistent with the findings of Aykac and Celik's (2011) study where they found that teachers and teacher candidates have negative perceptions for new primary curriculums applied in primary schools, and Tasdemir's (2011b) study where 75% of primary school teachers created negative metaphors concerning primary curriculums.

Another finding of the study is that there is a relationship between primary school teachers' branches and the categories formed concerning curriculum concepts. According to this, most of the classroom teachers perceived the curriculum as a variable structure, whereas, most of the branch teachers perceived it as a set of factors to be prepared carefully. This finding of the study is similar to the study conducted by Anglin and Dugan (1982). They found that primary school teachers perceived curriculum as "recovery directional", secondary school teachers found the curriculum as "production directional", which, in turn, showed that the perceptions of teachers of different branches differ about the curriculum.

As a result, the study revealed that, the perceptions of primary school teachers concerning the curriculum are generally positive, they formed numerous and different metaphors related to curriculum concept, they explained curriculum concept with the help of positive and negative metaphors, and they associated curriculum concept mostly with non-living things.

In regard of the results gathered through the study, following suggestions can be made:

- With the help of in-service training, primary school teachers should be made aware of curriculum concept, and how to use it effectively.
- The reasons of why negative metaphors were used related to the curriculum should be investigated.
- Opinions of teachers on curriculum should be determined with the help of other techniques and methods.
- The same study should be conducted again for different teaching curriculums.

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# Evaluation of Elementary School Teachers in terms of Professional Values*

**Nihal Tunca****

## Abstract

The purpose of the current study is to determine the extent to which elementary school teachers possess professional values. The current research is a qualitative study of survey model. The universe of the study is comprised of Science and Technology, Classroom, Social Studies, Turkish and Math teachers working at elementary schools in 2011-2012 school year. In the determination of the sampling size for the current study, "Sampling Size Table" developed by Cohen, Manion and Morrison (2005) was used and it was found that 384 people would be enough to represent the universe with 5% error margin. In order to determine the distribution of 384 people across the cities and branches "Stratified Sampling Method" was employed. In the collection of data, The Teacher Professional Values Scale (TPVS) developed by Tunca (2012) was used. Descriptive statistics were used to elicit the extent to which the teachers posses professional values. In paired comparisons, t-test and in the comparisons having more than three dimensions, Kruskal Wallis H test were conducted. In the values found to be significant, Mann Whitney U Test was used to determine the source of the difference in paired comparisons. At the end of the study, it was found that the teachers' perceptions of their possession of professional values are high. On the other hand, the sub-dimensions in which the teachers see themselves the least adequate in comparison to the other sub-dimensions is "Being against violence" and the most adequate is "Respect for diversity". When the teachers' levels of possessing professional values were compared according to their genders, only the score they took from the sub-dimension of "Being open to cooperation" was found to be significantly different in favor of the female teachers. When the teachers' levels of possessing professional values were compared according to their branches, while it was found that their scores taken from the sub-dimensions of "Respect for diversity" and "Being against violence" did not vary significantly depending on the branch, the scores taken from the sub-dimensions of "Personal and social responsibility" and "Being open to cooperation" varied significantly depending on the branch.

***Keywords:*** professional values, the scale of teacher professional values, respect for diversity, being against violence, personal and social responsibility

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# İlköğretim Öğretmenlerinin Mesleki Değerler Açısından Değerlendirilmesi

## Öz

Bu araştırmada, ilköğretim öğretmenlerinin mesleki değerlere sahip olma düzeylerinin belirlenmesi amaçlanmıştır. Araştırma tarama modelinde nicel bir çalışmadır. Araştırmanın evrenini, 2011-2012 eğitim-öğretim yılında, Türkiye'de resmi ilköğretim okullarında görev yapan Fen ve Teknoloji, Sınıf, Sosyal Bilgiler, Türkçe ve Matematik öğretmenleri oluşturmaktadır. Araştırmada örneklem büyüklüğünün belirlenmesinde Cohen, Manion ve Morrison'un (2005) "Örneklem Büyüklüğü Tablosu"ndan yararlanılmış ve 96.966 kişilik bir hedef kitleyi, %5'lik hata payıyla 384 kişinin temsil edeceği varsayılmıştır. 384 kişinin illere ve branşlara göre dağılımını belirlemek için "Tabakalı Örnekleme Yöntemi" kullanılmıştır. Araştırmada veri toplama aracı olarak Tunca (2012) tarafından geliştirilen "Öğretmen Mesleki Değerler Ölçeği (ÖMDÖ)" kullanılmıştır. Araştırmada öğretmenlerin mesleki değerlere sahip olma düzeylerini belirlemek amacıyla betimsel istatistikler kullanılmıştır. Araştırmada ikili karşılaştırmalarda t-testi, üçten daha fazla boyutu olan karşılaştırmada ise Kruskal Wallis H testi yapılmıştır. Anlamlı çıkan değerlerde, farkın kaynağını belirlemek üzere ikili karşılaştırmalarda Mann Whitney U Testi kullanılmıştır. Araştırma sonucunda öğretmenlerin; mesleki değerlere sahip olma konusunda kendilerini yüksek düzeyde algıladıkları, bununla birlikte kendilerini görece en yetersiz gördükleri alt boyutun "Şiddete karşı olma", en yeterli gördükleri alt boyutun ise "Farklılıklara saygı duyma" olduğu tespit edilmiştir. Öğretmenlerin mesleki değer düzeyleri cinsiyetlerine göre karşılaştırıldığında ise yalnızca "İşbirliğine açık olma" alt boyutundan aldıkları puanlara ilişkin farklılığın kadınlar lehine anlamlı olduğu belirlenmiştir. Öğretmenlerin mesleki değer düzeyleri branşlarına göre karşılaştırıldığında; "Farklılıklara saygı duyma" ve "Şiddete karşı olma" alt boyutlarından aldıkları puanların branşa göre farklılaşmadığı, buna karşın "Kişisel ve toplumsal duyarlılık", "İşbirliğine açık olma" alt boyutlarından ve ölçekten aldıkları toplam puanların farklılaştığı görülmüştür.

***Anahtar Sözcükler:*** mesleki değerler, öğretmen mesleki değerler ölçeği, farklılıklara saygı duyma, şiddete karşı olma, kişisel ve toplumsal duyarlılık

## Introduction

In the information age in which conflicts, contradictions and sudden changes have been widely experienced, it seems to be inevitable for education not to be affected from the waves of changes and transformations brought about by globalization. What is expected from education today is to serve as an institution investing great efforts to keep up with technological developments and to find solutions to the problems caused by globalization. That is, the role expected to be fulfilled by education is to educate individuals in such a way as to optimize their cognitive, social, psychological, ethical and affective development. If this role is to be fulfilled, educational programs developed on the basis of "modern conception of education" should emphasize the development of behaviors of affective domain as much as the development of behaviors of cognitive domain (Kenan, 2009).

Particularly in an age in which problems such as individualization, social alienation, lack of empathy, inadequacy in using social life skills, not taking responsibility and introvert lifestyles (Mehmedoğlu & Mehmedoğlu, 2006, p. 209) have been widely experienced, it is of great importance to design our lives to include the elements of affective domain that are believed to be indispensable for personal and social life. For finding solutions to the problems of our age, people need to think about the possible answers to such questions as "What is humanity?", "What are the limits of our responsibilities?", "What are the ethical dimensions of our experiences?" (Dilmaç, 2002, p. 5) "How can people be happy?" Such answers can be found by activating values that are parts of the affective domain.

Values playing an important role in shaping people's lives are not inherited characteristics rather they come into being through learning. Children learn the worldview, affective tendencies, political views, beliefs and culture of the society in which they are living (Gözütok, 2008), in short, its values, first from their parents (Halstead & Taylor, 2000; Fyffe at al., 2004; Sabatier et al., 2005; Çelik & Güven, 2011) and then from the media, peers, pre-school education institutions and local communities (Halstead & Taylor, 2000; Fyffe et al., 2004; Çelik & Güven, 2011). The family is of special importance among these institutions as it is the first institution where the child observes social roles and starts to acquire values.

After the family, the most important institution is the school for the personal development and socialization of an individual. Lickona (1988) expresses that due to three main reasons, values should be developed at schools. First one of them is that over time the family institution loses its efficiency in inculcating values in children. Some of the reasons for the family losing its efficiency are that depending on the changing social structure, extended families turn to nucleus families, the number of children in families decreases, the mother enters into the working life, the number of single-parent families and the rate of divorces increase. The second one is that badly behaving members in families, friends having bad habits, exposure to the incidences of violence in daily life and through media and other environmental conditions adversely affect children. The third one is the necessity of conveyance of common values essential for the survival of the society to future generations in a systematic

manner (Cheek & Lynn, 1994). Another reason for giving values education at schools is that when compared to schools, the effect of the family and the society on the development of children's value systems occurs more haphazardly and informally.

Regardless of whether value education is given through formal education programs or informal programs, if the teacher responsible for imparting values to students by conducting some in-class activities is not professionally and personally qualified enough to accomplish the program objectives; then even the most perfect program cannot be effective in imparting the target values to children. In this connection, teachers; as the implementers of the programs, seem to have a vital role in the inculcation and development of values in children.

The pedagogical and subject-area knowledge and competencies possessed by the teacher while implementing the formal program affect the quality of the values education (Dale 1994; Veugelers, 1996) because teachers are responsible for imparting the values set in the program by conducting the necessary activities and providing guidance required to conduct these activities. In other words, teachers demonstrate and become role models for the values to be imparted through the examples they set and activities they conduct. During this process, teachers interact with students and encourage them to develop their own values (Veugelers, 2000).

For teachers to be successful in imparting the target values set in the program, to guide their students in turning these values into behaviors, to set good examples for their students and to avoid exhibiting behaviors that can be viewed as negative for the profession of teaching, they need to have and internalize the values that make a good teacher and distinguish the profession of teaching from other professions and to make these values as an indispensable part of their professional lives. This requires the investigation of the extent to which teachers have the required competencies.

When the relevant literature is reviewed, it is seen that there are studies investigating value preferences by using "Schwartz Values List", "Lussier's Values Scale", "Rokeach's Values List", "Values Order Scale" developed by Sezgin (2006) (Kuşdil & Kağıtçıbaşı, 2000; Sarı, 2005; Sezgin, 2006; Dönmez & Cömert, 2007; Fırat & Açıkgöz, 2012; Yılmaz, 2009; Dilmaç, Bozgeyikli & Çakılı 2008; Taşdan, 2008; Aktepe & Yel, 2009; Yılmaz & Dilmaç, 2011; Dilmaç, Bozgeyikli & Çıkılı, 2008; Taşdan, 2008; Dilmaç et al., 2009; Memiş & Gedik, 2010; Kolaç & Karadağ, 2012); studies focusing on the determination of teachers' attitudes towards values by using Schwartz Values Scale (Çankaya & Seçkin, 2004; Gürşimşek & Göregenli, 2004, Karadağ et al., 2006; Aşkan, 2010); studies aiming to determine teachers' levels of democratic values by using Democratic Values Scale for Classroom Teachers developed by Selvi (2007) (Karadağ, Baloğlu & Yalçınkayalar, 2006; Yılmaz, 2011; Yazıcı, 2011; Oğuz, 2011; Akın & Özdemir, 2009). When these studies are examined, it is seen that teachers have not been evaluated in terms of their professional values related to how they plan, organize and implement their instruction, how they make their students learn and go on learning, how they

establish in-class discipline and in terms of the professional values directing their thoughts, emotions and behaviors while carrying out their duties and responsibilities. On the basis of this paucity in the literature, the current study aims to determine the extent to which elementary school teachers possess professional values. To this end, answers to the following questions were sought:

1. What is the extent to which elementary school teachers possess professional values?

2. Does the extent to which elementary school teachers possess professional values vary significantly depending on their gender, branch, length of service, educational background and the last graduated school?

## Method

### Research Model

The study is a descriptive study employing the survey model. In the current study, it is intended to describe the existing state of the extent to which elementary school teachers possess professional values.

### Universe and Sampling

The universe of the study is comprised of Science and Technology, Classroom, Social Studies, Turkish and Math teachers working in the official elementary schools in Turkey in 2011-2012 school year. Determination of the sampling of the study was conducted on the basis of The Statistical Regional Units Classification (İBBS) developed by The State Planning Organization (DPT) with the support of The Turkish Statistical Institute (TÜİK). According to this classification, there are 12 Statistical Regional Units in the "Level 1" group (DPT, 2002). Within the context of the present study, first, one city was selected from each unit through simple random sampling.

On the basis of the statistical data attained from the Directorate of National Education, the total number of the Science and Technology, Classroom, Social Studies, Turkish and Math teachers working in the elementary schools located in the selected cities was found to be 96,966. In the determination of the sampling size in the current study, "The Sampling Size Table" proposed by Cohen, Manion and Morrison (2005) was used and thus it was concluded that the target population can be represented by 384 teachers with 5% error margin. In order to determine the distribution of 384 teachers across the cities and branches, "Stratified Sampling Method" was employed.

In order to serve the purposes of the current study, "city" and "branch" variables were taken as criteria in the construction of the strata and the numbers of teachers to be taken from each of the "12 cities" and "5 strata" were calculated. Thus, 42.2% of the participants were constituted by the male teachers and 57.8% by the female

teachers. Of the participating teachers, 6.8% were Science and Technology teachers, 6.8% were Math teachers, 70.8% were Classroom teachers, 6.3% were Social Studies teachers and 9.4% were Turkish teachers. Of the participating teachers, 47.4% have a length of service ranging from 1 to 10 years, 35.9% have a length of service ranging from 11 to 20 years, 10.2% have a length of service ranging from 21 years to 30 years and 6% have a length of service that is 31 years or more. In terms of their educational background, 9.4% of the teachers hold an associate's degree, 84.1% hold a bachelor's degree and 6.5% hold a graduate degree. When their last graduated schools are examined, it is seen that 74.8% graduated from education faculties and 25.2% graduated from other educational institutions.

When the cities where the participating teachers are working are examined, it is seen that 6.8% are working in Adana, 15.1% are working in Ankara, 2.9% are working in Balıkesir, 7.8% are working in Bursa, 2.9% are working in Erzurum, 6.3% are working in Gaziantep, 34.1% are working in İstanbul, 11.2% are working in İzmir, 4.4% are working in Kayseri, 3.4% are working in Samsun, 2.3% are working in Trabzon and 2.9% are working in Van.

## Data Collection Tool

In the current study, as the data collection tool, "The Teacher Professional Values Scale (TPVS)" developed by Tunca (2012) was used. The TPVS is comprised of four sub-dimensions being "Respect for Diversity", "Personal and Social Responsibility" "Being against Violence" and "Being Open to Cooperation" and 24 items. All the items involved in the sub-dimension of "Being against Violence" are reversely scored. The scale items are scored ranging from "1-Not reflects me at all" to "5-Reflects me a lot". A total score can be taken from the whole scale. The score to be taken from the scale varies between 24 and 120. Higher scores taken from the scale indicate higher levels of possessing professional values. The four sub-dimensions in the scale explain 46.57% of the total variance. Confirmatory factor analysis was applied to the 24-item structure subsumed under four factors obtained as a result of exploratory factor analysis. By means of the confirmatory factor analysis, chi-square (X2) statistical significance levels (X2/sd=2.29) suitable for the model constructed for the scale were calculated. Moreover, the other goodness-of-fit indices calculated for the model (GFI=0.88, AGFI=0.86, RMSEA=0.06, SRMR, CFI, NFI and NNFI=0.92) showed that the proposed model is suitable. The Cronbach's Alpha value calculated for the reliability of TPVS was found to be ranging from 0.70 to 0.78 for the sub-dimensions. For the whole scale, Cranach's Alpha coefficient was calculated to be 0.82 (Tunca, 2012).

## Data Analysis

In the current study, descriptive statistics were used to determine the extent to which the teachers possess professional values. For comparisons, first, means and standard deviations of the teachers' responses given to the scale items in terms of each variable were calculated and normality and homogeneity of the variances were

controlled. On the basis of these analyses, t-test was run for paired comparisons and Kruskal Wallis H test was conducted for comparisons having more than three dimensions. In the values found to be significant, Mann Whitney U test was used to detect the source of the difference.

## Findings

In this section, in line with the purposes of the study, first the extents to which the teachers possess professional values and then their comparisons according to different variables are presented. The descriptive statistics concerning the extents to which the teachers possess professional values are given in Table 1.

Table 1

*Descriptive Statistics Concerning the Extents to which the Teachers Possess Professional Values*

| TPVS | n | K (The number of items) | The lowest score | The highest score | $\bar{X}$ | S | $\bar{X}$/K |
|---|---|---|---|---|---|---|---|
| Respect for diversity | 384 | 8 | 10 | 40 | 34,06 | 3,70 | 4,26 |
| Personal and social responsibility | 384 | 8 | 12 | 39 | 27,11 | 4,64 | 3,39 |
| Being against violence | 384 | 5 | 5 | 24 | 14,12 | 3,35 | 2,82 |
| Being open to cooperation | 384 | 3 | 5 | 15 | 11,88 | 2,20 | 3,96 |
| TPVS Total score | 384 | 24 | 33 | 112 | 87,17 | 8,77 | 3,63 |

As can be seen in Table 1, when the arithmetic means related to the scores taken from the sub-dimensions of TPVS were converted into means ranging from 1 to 5, the mean score for the sub-dimension of "Respect for diversity" was found as $\bar{X}$=4.26; for the sub-dimension of "Personal and social responsibility" as $\bar{X}$=3.39; for the sub-dimension of "Being against violence" as $\bar{X}$=2.82; for the sub-dimension of "Being open to cooperation" as $\bar{X}$=3.96. The mean score for the whole scale was found to be $\bar{X}$=3.63. These findings show that the teachers view their level of possessing professional values as high and think that they have the value of "Respect for diversity" to the highest degree and it is followed by "Being open to cooperation" and "Being against violence". In Table 2, independent samples t-test results related to comparisons of the total score and the scores taken from the sub-dimensions depending on the gender variable are presented.

Table 2

*Comparison of the Total Score and the Scores Taken from the Sub-Dimensions of the Teacher Professional Values Scale according to the Gender Variable*

| Dimensions | Gender | n | $\overline{X}$ | S | sd | t | P |
|---|---|---|---|---|---|---|---|
| Respect for diversity | Male | 162 | 33,75 | 3,88 | 382 | 1,38 | 0,17 |
| | Female | 222 | 34,28 | 3,56 | | | |
| Personal and social responsibility | Male | 162 | 26,84 | 4,59 | 382 | 1,00 | 0,32 |
| | Female | 222 | 27,32 | 4,69 | | | |
| Being against violence | Male | 162 | 14,18 | 3,61 | 382 | 0,31 | 0,76 |
| | Female | 222 | 14,07 | 3,15 | | | |
| Being open to cooperation | Male | 162 | 11,59 | 2,14 | 382 | 2,18 | 0,03 |
| | Female | 222 | 12,08 | 2,22 | | | |
| TPVS Total score | Male | 162 | 86,36 | 8,67 | 382 | 1,54 | 0,12 |
| | Female | 222 | 87,75 | 8,82 | | | |

When the t-test results presented in Table 2 are examined, it is seen that the teachers' mean scores for the sub-dimensions of "Respect for diversity [t(382)= 1,38; p>.05]", "Personal and social responsibility [t(382)=-1,00; p>.05]", "Being against violence [t(382)= 0,31; p>.05]" and the total score for "The Teacher Professional Values Scale" [t(382)= 1,54; p>.05]" do not vary significantly depending on the gender variable. On the other hand, the difference between the mean scores taken from the sub-dimension of "Being open to cooperation [t(382)= 2,18; p<0.05]" was found to be significant. When the means of the groups are considered, it is seen that the mean of the female teachers ($\bar{X}$=12.08) is higher than that of the male teachers ($\bar{X}$=11.59). In Table 3, Kruskal Wallis H Test results concerning the comparisons of the total score taken from TPVS and the scores taken from the sub-dimensions according to the branches are presented.

Table 3

*Comparison of the Total Score Taken from the Teacher Professional Values Scale and the Scores Taken from its Sub-Dimensions according to the Branches*

| Dimensions | Branch | n | Mean rank | sd | $\chi 2$ | p | Significant difference (U test) |
|---|---|---|---|---|---|---|---|
| Respect for diversity | 1. Science and Technology Teachers | 26 | 169,83 | 4 | 8,97 | 0,06 | - |
| | 2. Math teachers | 26 | 156,87 | | | | |
| | 3. Classroom teachers | 272 | 200,4 | | | | |
| | 4. Social studies teachers | 24 | 213,44 | | | | |
| | 5. Turkish teachers | 36 | 160,99 | | | | |
| Personal and social responsibility | 1. Science and Technology Teachers | 26 | 183,04 | 4 | 11,51 | 0,02 | 3-5<br>4-5 |
| | 2. Math teachers | 26 | 161,67 | | | | |
| | 3. Classroom teachers | 272 | 202,24 | | | | |
| | 4. Social studies teachers | 24 | 199,5 | | | | |
| | 5. Turkish teachers | 36 | 143,32 | | | | |
| Being against violence | 1. Science and Technology Teachers | 26 | 215,73 | 4 | 3,63 | 0,46 | - |
| | 2. Math teachers | 26 | 211,1 | | | | |
| | 3. Classroom teachers | 272 | 186,14 | | | | |
| | 4. Social studies teachers | 24 | 212,44 | | | | |
| | 5. Turkish teachers | 36 | 197,08 | | | | |
| Being open to violence | 1. Science and Technology Teachers | 26 | 139,71 | 4 | 48,19 | 0,00 | 1-3<br>2-3<br>3-4<br>3-5 |
| | 2. Math teachers | 26 | 127,77 | | | | |
| | 3. Classroom teachers | 272 | 217,28 | | | | |
| | 4. Social studies teachers | 24 | 144,96 | | | | |
| | 5. Turkish teachers | 36 | 121,88 | | | | |
| TPVS Total score | 1. Science and Technology Teachers | 26 | 173,69 | 4 | 19,12 | 0,00 | 2-3<br>3-5 |
| | 2. Math teachers | 26 | 148,37 | | | | |
| | 3. Classroom teachers | 272 | 206,58 | | | | |
| | 4. Social studies teachers | 24 | 188 | | | | |
| | 5. Turkish teachers | 36 | 134,54 | | | | |

The results presented in Table 3 show that the teachers' scores taken from the sub-dimensions of "Respect for diversity [$\chi^2_{(4)}$= 8.97; p>.05]" and "Being against violence [[$\chi^2_{(4)}$= 3.63; p>.05]" do not vary significantly depending on the branches. On the other hand, the teachers' scores taken from the sub-dimensions of "Personal and social responsibility [$\chi^2_{(4)}$= 11.51; p<.05]", "Being open to cooperation [$\chi^2_{(4)}$= 48.19; p<.01]" and the total scores taken from the "Teacher professional values scale [$\chi^2_{(4)}$= 19.12; p<.01]" vary significantly depending on the branches.

When paired comparisons were made with Mann Whitney U Test to find the source of the differences, it was found that there is a significant difference between the Classroom teachers and Turkish teachers and between the Social Studies teachers and Turkish teachers in terms of the sub-dimension of "Personal and social responsibility". When the mean ranks are considered, it is understood that both the Classroom teachers and the Social Studies teachers' levels of possessing the professional values involved in this sub-dimension are higher than that of the Turkish teachers. In terms of the scores taken from the sub-dimension of "Personal and social responsibility", there is no significant difference between the levels of possessing the professional values in this dimension between the teachers from the branches apart from the ones mentioned above. In terms of the scores taken from the sub-dimension of "Being open to cooperation", the differences between the scores of the Science and Technology teachers, Math teachers, Social Studies teachers and Turkish teachers and Classroom teachers were found to be significant.

When the mean ranks are considered, it is seen that the Classroom teachers' level of possessing the professional values in this sub-dimension is higher than those of the teachers from all the other branches. In terms of the total scores taken from the Teacher Professional Values Scale, the differences between the Math teachers and Classroom teachers and between the Turkish teachers and Classroom teachers were found to be significant. When the mean ranks are considered, it is seen that the Classroom teachers' level of possessing the values in this dimension is higher than those of the Math and Turkish teachers. Whether it is significant or not, the scores taken by the Classroom teachers from the three dimensions of TPVS were found to be higher than those of the teachers from the other branches. When the results of the analysis conducted to make the comparison of the total score taken from TPVS and the scores taken from its sub-dimensions were examined on the basis of the teachers' educational background, it was found that both the total score taken from the whole scale and the scores from its sub-dimensions didn't vary significantly depending on their educational background.

The scores taken from "Respect for diversity [$\chi^2_{(2)}$= 0,68; p>.05]", "Personal and social responsibility [$\chi^2_{(2)}$= 5,49; p>.05]", "Being against violence [$\chi^2_{(2)}$= 4,38; p>.05]", "Being open to cooperation [$\chi^2_{(2)}$= =4,41; p>.05]" and "Teacher professional values scale [$\chi^2_{(2)}$= 1,49; p>.05]" did not vary significantly depending the branch variable. When the results of the independent samples t-test conducted to compare the total score taken from TPVS the scores taken from the sub-dimensions were examined on the basis of the last graduated school, it was found that there is no significant difference between the groups. The scores taken from "Respect for diversity [t(382)=-1,46; p>.05]", "Personal and social responsibility [t(382)=-0,94; p>.05]", "Being against violence [t(382)=1,81; p>.05]", "Being open to cooperation [t(382)=-0,31; p>.05]", "The teacher professional values scale [t(382)=-0,50; p>.05]" did not vary significantly depending on the last graduate school variable. In Table 4, Kruskall Wallis H Test results related to the comparison of the total score taken from TPVS and the scores taken from its sub-dimensions on the basis of the length of service are presented.

Table 4

*Comparison of the Total Score Taken from the Teacher Professional Values Scale and the Scores Taken from its Sub-Dimensions on the Basis of the Length of Service*

| Dimensions | Length of service | n | Mean ranks. | sd | χ2 | p | Significant difference (U Test) |
|---|---|---|---|---|---|---|---|
| Respect for diversity | 1. 1-10 years | 182 | 191,74 | 3 | 1,18 | 0,76 | |
| | 2. 11-20 years | 138 | 193,59 | | | | |
| | 3. 21-30 years | 39 | 175,53 | | | | |
| | 4. 31 and more | 23 | 204,2 | | | | |
| Personal and social responsibility | 1. 1-10 years | 182 | 169,48 | 3 | 19,53 | 0,00 | 1-2<br>1-4<br>2-4 |
| | 2. 11-20 years | 138 | 203,81 | | | | |
| | 3. 21-30 years | 39 | 208,82 | | | | |
| | 4. 31 and more | 23 | 262,52 | | | | |
| Being against violence | 1. 1-10 years | 182 | 207,87 | 3 | 11,44 | 0,01 | 1-2<br>1-4<br>2-4 |
| | 2. 11-20 years | 138 | 182,55 | | | | |
| | 3. 21-30 years | 39 | 180,04 | | | | |
| | 4. 31 and more | 23 | 135,04 | | | | |
| Being open to cooperation | 1. 1-10 years | 182 | 182,22 | 3 | 7,05 | 0,07 | |
| | 2. 11-20 years | 138 | 193,67 | | | | |
| | 3. 21-30 years | 39 | 195,15 | | | | |
| | 4. 31 and more | 23 | 245,67 | | | | |
| TPVS Total score | 1. 1-10 years | 182 | 185,85 | 3 | 2,78 | 0,43 | |
| | 2. 11-20 years | 138 | 194,83 | | | | |
| | 3. 21-30 years | 39 | 186,44 | | | | |
| | 4. 31 and more | 23 | 224,76 | | | | |

The analysis results presented in Table 4 revealed that the scores taken from the sub-dimensions of "Respect for diversity [$\chi^2_{(3)}$= 1,18; p>.05]" and "Being open to cooperation [$\chi^2_{(3)}$= 7,05; p>.05]" and the total score taken from the "Teacher professional values scale [$\chi^2_{(3)}$= 2,78; p>.05]" did not vary significantly depending on the length of service. On the other hand, it was found that the scores taken from the sub-dimensions of "Personal and social responsibility [$\chi^2_{(3)}$= 19,53; p<.05]" and "Being against violence [$\chi^2_{(3)}$= 11,44; p<.01]" varied significantly depending on the length of service.

When paired comparisons were made with Mann Whitney U Test to find the source of the difference, in terms of the scores taken from the sub-dimensions of "Personal and social responsibility" and "Being against violence", significant differences were found between the teachers with 1-10 years of professional experience and the teachers with 11-20 years of professional experience; between the teachers with 1-10 years of professional experience and the teachers with 31 or more years of teaching experience and between the teachers with 11-20 years of professional experience and the teachers with 31 or more years of professional experience.

When the mean ranks related to the sub-dimension of "Personal and social responsibility" are considered, it is understood that the teachers having 11-20 years of professional experience and the teachers having 31 or more years of professional experience possess higher levels of professional values involved in this dimension than the teachers having 1-10 years of professional experience and the teachers having 31 or more years of professional experience have higher levels of the professional values in this dimension than the teachers having 11-20 years of professional experience.

When the means ranks related to the sub-dimension of "Being against violence" are considered, it is seen that the teachers having 1-10 years of professional experience have higher levels of the professional values involved in this dimension than the teachers having 11-20 years of professional experience and the teachers having 31 or more years of professional experience and the teachers with 11-20 years of professional experience have higher levels of these values than the teachers with 31 or more years of professional experience. In terms of the scores taken from the sub-dimensions of "Personal and social responsibility" and "Being against violence" there is no significant difference between the teachers having the other lengths of service.

## Results, Discussion and Suggestions

In the current study, it was aimed to determine the extent to which the teachers possess professional values and to reveal whether they vary significantly depending on some variables. First, the extent to which the teachers possess professional values was determined. And it was concluded that the elementary school teachers see their levels of possessing professional values as high. The findings of the research reported on teachers' levels of possessing professional values in the relevant literature are similar to the findings of the current study. For example, Akın and Özdemir (2009) and Yazıcı (2011) found that pre-service teachers have high levels of democratic values. Yılmaz (2011) also concluded that the teachers have high levels of democratic values. Karacaoğlu (2008) also reported that the teachers see themselves highly adequate in terms of possessing national and universal values. Though the teachers participating in the current study got high scores from the Teacher Professional Values Scale, they see themselves the least adequate in terms of possessing the values involved in the sub-dimension of "Being against violence". The findings of the studies revealing that teachers resort to physical punishment and violence concur with these findings of the current study. For example, Gözütok (2008) found that nearly half of the teachers participating in the study approved of beating. Moreover, investigating the opinions of teachers about physical punishment, Hatunoğlu and Hatunoğlu (2005) concluded that 74% of the male teachers and 54% of the female teachers resort to physical punishment.

The teachers see themselves most adequate in the sub-dimension of "Respect for diversity". When the relevant literature is examined, it is seen that there are some studies reporting similar findings. For example, Altınkurt and Yılmaz (2011) pointed

out that the professional ethical behaviors most frequently exhibited by the teachers are related to the values of "Respect for diversity/not discriminating against". This finding seems to concur with the finding of the current study. Reporting similar findings, Çoban, Karaman and Doğan (2010) concluded that the pre-service teachers' opinions about cultural differences are positive.

Another remarkable finding of the current study is that on the basis of gender, only significant difference was found in relation to the sub-dimension of "Being open to cooperation". Akın and Özdemir (2009) investigated the democratic values of the pre-service teachers and found that the female participants have higher level of democratic behaviors in the dimension of "Solidarity". In the study, it was concluded that in general gender does not lead to significant differences in the professional values of teachers. Though the teaching of profession is seen to be a female job by the society (Koray, 1993; Tan, 1996); professional values are viewed as standards and criteria guiding teachers' thoughts, feelings and behaviors while performing their profession and regardless of the gender, every teacher wanting to be successful in their profession should have these professional values; thus, the finding of the current study seems to be positive. When other studies looking at the effect of gender on the levels of the values possessed by teachers and pre-service teachers are examined, it is seen that the findings of these studies are parallel to the findings of the current study (Karadağ, Baloğlu & Yalçınkayalar, 2006; Yılmaz, 2011; Yazıcı, 2011; Oğuz, 2011). On the other hand, there are some other studies revealing that gender leads to significant differences in scores taken from different scales and sub-dimensions of these scales used in the literature (Uyan, 2002; Güngör, 1998; Fırat & Açıkgöz, 2012; Yılmaz, 2009; Dilmaç, Bozgeyikli & Çakılı, 2008; Smith & Schwartz, 1997). In this connection, it can be argued that in general there is no consistency between the studies focusing on the effect of gender on the level of adopting values.

The current study also revealed that while the teachers' scores taken from the sub-dimensions of "Respect for diversity" and "Being against violence" did not vary significantly depending on the branch, their scores taken from the sub-dimensions of "Personal and social responsibility" and "Being open to cooperation" and from the whole scale varied significantly. The most remarkable finding related to the branch variable is that whether it is significant or not, the Classroom teachers have higher scores for the possession of professional values from TPVS and its three sub-dimensions than the teachers of the other branches. After the family, the most important institution for children to learn values is the elementary school, classroom teachers are the first teachers whose behaviors are continuously observed by students; thus, they are taken as role-models, while within the curriculums of Science, Turkish and Math courses, there are objectives stated related to inculcation of values in their general goals, there are objectives directly related to the inculcation of values in the curriculum of the course of life sciences and due to all of these reasons, the responsibility of the classroom teacher for imparting values to students is greater than other teachers, which might increase classroom teachers' awareness of values and levels of adopting these values.

When the Social Studies and Life Science curriculums developed through different time periods (1968-1998-2004) are examined, it is seen that great emphasis is put on objectives such as inculcation of important social skills in students, promotion of the socialization of students and educating them as good citizens (Güven et al, 2004; Erden, Tarihsiz, cited in Çengelci, 2010; Akpınar & Kaymakçı, 2012). Such objectives load more responsibility on the shoulders of classroom teachers and social studies teachers as the main implementers of the program.

While it was seen that the scores taken by the teachers from the sub-dimensions of "Respect for diversity" and "Being open to cooperation" and the total score taken from the whole scale did not vary depending on the branch, the scores taken from the sub-dimensions of "Personal and social responsibility" and "Being against violence" varied significantly depending on the branch variable. In terms of the scores taken from the sub-dimensions of "Personal and social responsibility" and "Being against violence", when paired comparisons were made to find the source of the difference, significant differences were found between the teachers with 1-10 years of professional experience and the teachers with 11-20 years of professional experience; between the teachers with 1-10 years of professional experience and the teachers with 31 years or more teaching experience and between the teachers with 11-20 years of professional experience and the teachers with 31 or more years of professional experience.

When the mean ranks related to the sub-dimension of "Personal and social responsibility" are considered, it is understood that the teachers having 11-20 years of professional experience and the teachers having 31 or more years of professional experience possess higher levels of professional values involved in this dimension than the teachers having 1-10 years of professional experience and the teachers having 31 or more years of professional experience have higher levels of the professional values in this dimension than the teachers having 11-20 years of professional experience.

When the means ranks related to the sub-dimension of "Being against violence" are considered, it is seen that the teachers having 1-10 years of professional experience have higher levels of the professional values involved in this dimension than the teachers having 11-20 years of professional experience and the teachers having 31 or more years of professional experience and the teachers with 11-20 years of professional experience have higher levels of these values than the teachers with 31 or more years of professional experience.

In the literature, there are studies reporting that teachers' democratic values (Karadağ, Baloğlu & Yalçınkayalar, 2006) and organizational values (Zoba, 2000) do not vary significantly depending on length of service. On the other hand, in the research conducted on teachers (Yılmaz, 2011; Yurtseven, 2003) and school directors (Erçetin, 2000; Genç, 2008), significant differences were observed in different sub-dimensions (e.g. Counseling and freedom, equality, creativity, aesthetics) of different value categories (e.g. democratic values, personal values) depending on the length of

service variable. Thus, it seems to be difficult to reach generalizations on the issue of whether the level of possessing values varies depending on the length of service variable.

Another remarkable finding of the study is that the scores taken from the whole scale and its sub-dimensions don't vary significantly depending on the variables of educational background and the last graduated school. This finding contradicts with the expectation that teacher education institutions should positively affect teachers' levels of possessing professional values. Teachers who are responsible for training individuals having acquired values are expected to experience a transformation in terms of professional values as a result of exposure to the implemented teaching programs and the behaviors of faculty members in teacher training institutions. However, the finding of the current study might indicate; contrary to this expectation, that educational faculties do not serve a functional role in imparting professional values to pre-service teachers. On the other hand, when the web sites of many education faculties responsible for training teachers are examined, it is seen that that have adopted the mission of creating modern, productive, inquisitive, self-confident and tolerant teachers who can adapt to changing situations, have an organizational culture, can use educational technologies, believe that diversity is richness, adopt life learning and self-innovation as their principle in life, serve the interests of the society with their productions in the fields of education and service and internalize ethical values. Yet, these objectives of education faculties seem to have not been achieved in practice. Moreover, this finding can be an indication of the lack of compatibility between the formal program and the hidden curriculum.

Secondly, the finding contradicts with the expectation that graduate education should have positive effect on teachers' levels of professional values. With increasing level of education, teachers are expected to undergo transformations in terms of both cognitive behaviors and affective behaviors depending on their restructuring their adopted educational philosophies and psychologies; that is, they are expected to question the values related to their profession.

Within the context of the findings of the current study, it was revealed that the teachers find themselves the least adequate in the sub-dimension of "Being against violence"; thus, in-service trainings can be offered to the teachers to raise their awareness of how to deal with undesired student behaviors. Moreover, the Ministry of National Education can make contributions to elicitation of the reasons behind the low levels of possessing professional values by administering personality tests in tandem with TPVS at certain intervals. Moreover, psychological supports can be provided by the Ministry of National Education for teachers to deal with students' personal problems determined as the most important reason for the teachers to resort violence in the current study.

In order to help teachers to internalize professional values, "professional values, values education" courses can be incorporated into teacher education programs as elective courses. In addition, through hidden curriculums (e.g. learning-teaching

process activities, course materials, verbal and non-verbal behaviors of faculty members), more emphasis can be put on professional values. Furthermore, in order to raise teachers' awareness of professional values, in-service trainings about the values included in the scale can be provided for elementary school teachers by the Ministry of National Education.

In other research aiming to determine elementary school teachers' levels of professional values, teacher behaviors can be observed in actual classroom environments or the opinions of students and parents about the professional values of teachers can be collected. Moreover, further research can be conducted to elicit the reasons for branch teachers' having lower levels of possessing professional values than classroom teachers. Determination of these reasons can shed light on the measures to be taken for the elimination of the problems encountered in teacher training programs. In addition to this, further research can be conducted to investigate the professional values of teachers in relation to different variables.

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# Classroom Teachers' Opinions about Homeworks *

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## Abstract

This study is aiming to establish the training teachers get regarding homework and how/how much it is to be given, and ascertain their views on this subject. The study has been conducted with 56 classroom teachers who have newly graduated in the 2014-2015 academic year and were currently teaching. A questionnaire was designed in order to accumulate the teachers' opinions on homework. The questionnaire was prepared with questions designed to keep the participants from veering away from the subject without constraining their views. These questions have been formed as "the teachers' views on homework," "the necessity of homework," "the effectiveness/importance of homework," "courses taken on homework," "how the teachers learned how much/how homework should be given" and "what disturbed the teachers about the homework they were given as students." At the end of the study it was seen that teachers were of the opinion that homework was necessary for students to repeat and reinforce their learnings, and to gain a sense a responsibility. Yet they have also pointed out that excessively and pointlessly given homework frustrates students, makes them feel unsuccessful, alienates them from school and even decreases their self-esteem. In addition it was found that they were not taught any lessons about how to give homework and how much of it, and that they have had to learn through their own experiences and observations.

***Keywords:*** homework, teacher training, teacher

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# Sınıf Öğretmenlerinin Ev Ödevlerine İlişkin Görüşleri

## Öz

Bu araştırma, öğretmenlerin ödevler ile ilgili ve ödevlerin nasıl / ne kadar verileceğine ilişkin aldıkları eğitimi belirlemeyi ve bu konudaki görüşlerini saptamayı amaçlayan bir çalışmadır. Araştırma, 2014-2015 eğitim-öğretim yılında, yeni mezun olmuş ve halen öğretmenlik yapan 56 sınıf öğretmeni ile gerçekleştirilmiştir. Gönüllülük esasına göre görüşlerine başvurulan öğretmenlerin 37'si kadın, 19'u ise erkektir. Öğretmenlerin ödevlere ilişkin görüşlerini toplamak amacıyla görüşme formu kullanılmıştır. Görüşme formu katılımcıların görüşlerini kısıtlamadan konunun dışına çıkmasını engellenmeye çalışan sorulardan oluşturulmuştur. Bu sorular; öğretmenlerin "ödev hakkındaki görüşleri", "ödevin gerekliliği", "ödevin etkililiği/önemi", "ödevlerle ilgili aldığı dersleri", "ne kadar/nasıl ödev verileceğini nereden öğrendiği" ve "öğrencilik yıllarında ona verilen ödevlerden en rahatsız eden şeyin ne olduğu" biçimindedir. Araştırmanın sonunda öğretmenler; ödevlerin öğrencilerin öğrendiklerini pekiştirdiği, tekrar etmesi açısından gerekli olduğu, öğrenciye sorumluluk duygusu kazandırdığı yönünde görüş belirtmişlerdir. Ancak sayfalarca ve amaçsız verilen ödevlerin öğrenciyi yıldırarak başarısızlık duygusu yaşamasına, okuldan soğumasına hatta kendisine saygısının azalmasına kadar götürebileceği görüşünde olduklarını belirtmişlerdir. Öğretmenler ödevlerin; bunaltıcı ve sıkıcı olmaması gerektiği, çocuğu yormayacak şekilde olması gerektiğini söylemişlerdir. Verilen ödevlerin veliler tarafından yapılmaması gerektiği de dile getirilenler arasındadır. Ev ödevinin gereksiz olduğu düşüncesi en az ifade edilenler arasında yer almaktadır. Bununla birlikte öğretmenlik eğitimleri boyunca ödevlerin nasıl ve ne kadar verileceği konusunda her hangi bir ders almadıkları, kendi deneyimleri ve gözlemleri ile ödev vermeyi öğrendikleri sonucuna ulaşılmıştır.

***Anahtar Sözcükler:*** ev ödevi, öğretmen eğitimi, öğretmen

## Introduction

Homework is generally described as "any task assigned by schoolteachers intended for students to carry out during non-school hours" (Cooper, 1989). Homework is an extension of the learning process and consists of tasks to be done outside of classroom hours, either by themselves or with the help of their families, in order to help reinforce the learnings they aquire at school and prevent them from forgetting (Arıkan & Altun, 2007; Cooper, 2001, Walberg, 1985). Alternatively, homework has been defined as, studies students do either individually or as groups outside of class times, in order to improve scientific thinking, problem solving and accessing sources (Şahin & Altınay, 2008).

Like many methods in teaching, homework has at times become very popular, and at other times lost its popularity. At the beginning of the 1900s homework was seen as an effective way of increasing mental discipline, whereas in the 1940s it was criticized for consisting of too much repetition of similar kinds and achieving only a low level of learning. In following years, similar waves of opinions continued since a consensus could not be reached on the subject (Woolfolk Hoy, 2015).

Experts in favour of the idea that homework is helpful for student learning, express that the relations between homework and success strengthens with age, and that effort counts for more than the time spent doing homework. They emphasize, in addition, that homework improves students' decision making abilities, helps them gain a sense of responsibility, and leads to better parent-teacher relations (Yılmaz, 2003). The opposite camp, claims that no matter how interesting homework is, students will always find it tedious and boring, and that students get exhausted from learning. Another criticism is that it takes away from the time reserved for communal work and leisure time activities, both of which are important for raising individuals well adapted to their community. It is also seen that there is a constant global increase in homework given to primary school students (Woolfolk Hoy, 2015) despite the view that homework has little benefit for students of younger ages (Woolfolk Hoy, 2015; Cooper, Robinson & Patall, 2006; Kapkıran & Kıran, 1999).

In this context, it is more important to think on how to determine the most effective and beneficial homework designed for the right age, the right purpose, given in best way and at the right amount, rather than discussing whether or not homework has effect on students' learning. Yet when it is kept in mind that homework needs to be suited to the age, learning speed and interests of the student as well as in service of the purpose of information transfer (Yılmaz, 2003), it is seen that most homework does not fulfil these objectives. Although it is suggested that children shouldn't be given homework before third grade, it is seen that teachers give out homework to students from first grade; and that students become overwhelmed trying to complete their workload.

With the structuralist approach and the changes it brings to forms of homework, the main problems have become that parents tend to do homework intended for parent-student cooperation by themselves, without including the student; most

parents do not know how to help their children with their homework; they tend to outright give the answers instead of providing clues for the student to reach the answer; and inability of families of low socio-economic status to help their children with schoolwork.

It is expected that teachers help raise parent awareness about homework, listen to the parents views, and learn about the students studying habits outside of school and give out homework accordingly. Keeping in mind the issues stated above, the effects of homework has been a point of much debate for parents, teachers, and students alike. When it is considered that teachers need to study on homework in a way that encompases all types with regard to the students' levels and the learning objectives (Hizmetçi, 2007), the lack of clarity on how homework should be given and how much of it, leads to many mistakes in application. Whether these teachers receive professional education on the subject during their bachelor's education becomes an important point of focus in the centre of these issues.

Apart from being mentioned by instructors due to individual interest or effort, effective homework assignment is not included in the curriculums of teacher training programmes within educational faculties. Also, when the general qualifications of the teaching profession are examined, it is seen that no information on homework assignment is included in the qualifications and sub-qualifications of the teaching and learning process, monitoring and assessing learning and growth (http://otmg.meb.gov.tr/, 2008).

When the literature on this subject is examined, it is seen that most studies examine the attitudes and views of students (Benli & Sarıkaya, 2012; Gedik & Orhan, 2013; Yücel, 2004; Sarıgöz, 2011; Özer & Öcal, 2012; Aydın, 2011), teachers (Kütükte, 2010; Deveci & Önder, 2014), and parents (Keskin & Özer, 2016; Şen & Gülcan, 2012; Tüysüz & etc., 2010) toward homework. Yet no research findings on how and how much homework should be given by teachers were discovered. It's thought that examining this subject that is relevant to teachers, students and parents alike will contribute to the literature as well as vocational courses, such as principles and methods of teaching, in educational faculties and that revisions will be found necessary.

### The Aim of the Research

The aim of this study is to ascertain the training teachers' recieve on homework during their education and their views on this subject.

## Method

### The Model of the Research

This is a qualitative study aiming to identify teachers' views regarding homework and the education they receive on how to give homework and how much

of it they should give. The research has been conducted suitably to the phenomenological design. This design was chosen because it focuses on phenomena we are aware of yet we do not yet have a deeper and detailed understanding of (Yıldırım & Şimşek, 2008).

## The Research Group

The study was conducted with 56 actively working classroom teachers that have graduated from the department of classroom teaching in the 2014-2015 academic year. These teachers consulted for their views, chosen on a voluntary basis, consist of 37 females and 19 males. The age distribution of the participant teachers is given below, in Table 1.

Table 1

*Age Distribution of Teachers in Research Group*

| Age | n | % |
|---|---|---|
| 20-24 | 20 | 36 |
| 25-30 | 7 | 13 |
| 31-39 | 8 | 14 |
| 40-49 | 13 | 23 |
| 50-65 | 8 | 14 |
| Total | 56 | 100 |

## The Measuring Instrument

The researchers designed a questionnaire in order to determine the views teachers have on homework. The questionnaire consists of six questions. The questions are; 'What are your thoughts on homework?', 'Is giving homework necessary? Why?', 'Do you think homework is effective/important?', 'What bothered you the most about homework you were given in your time as a student?', 'Did you receive any lessons on how to give homework during your education?', and 'Where did you learn how to give homework and how much of it to give?' The questionnaire prepared was presented for consultation to and approved by two experts in educational sciences and two classroom teachers.

## Data Analysis

The research data was collected via email. The teacher views were collected in virtual space through the questionnaire. The data collected through questionnaires was analysed using the descriptive analysis technique (Yıldırım & Şimşek, 2008). The frequencies and percentages the views collected in writing were calculated. All findings were supported with examples from the teachers' discourses. The teacher discourses have been coded using (T) and the number assigned to the teacher. For example, teacher number one has been coded as (T1).

The data coding reliability was checked in order to calculate the reliability of the person doing the coding. To assure the internal reliability of the study, two separate people conducted the coding and data analysis. Experts in the field came together to compare the analyses conducted, and identified the items they reached consensus on and those that lead to difference of opinion. In addition, for external reliability the the same people conducted the coding twice, with a month in between, and these codings were compared. In this operation, concluding the data analysis, the percentage of concordancewas found to calculate the reliability (Türnüklü & Şahin, 2003). The calculations resulted in a concordance coefficient of .90, and the study was accepted as reliable.

## Findings

The findings reached by examining and evaluating the answers given by teachers are presented in this section.

Table 2

*Frequencies and Percentages of Views on Homework*

| **Views** | **f** | **%** |
|---|---|---|
| Necessary,should be given,important and beneficial | 66 | 28 |
| Should be given for reinforcement | 37 | 16 |
| Should be given for repetition, children should repeat | 34 | **15** |
| Homework is needless (Thinking it is not productive, it isnt needed if there are enough excersises in class, because it is given as a punishment) | 21 | 9 |
| Shouldn't be excessive,shoudn't be opressing or boring, Shouldn't tire the child | 22 | 6 |
| Quality is important | 11 | 3 |
| Should be given as preparation to class | 6 | 3 |
| For endurance | 6 | 2 |
| Shouldn't be done by parent | 6 | 2 |
| For sense of responsibility | 5 | 2 |
| Effective if on purpose | 5 | 3 |
| Should be research oriented, creative | 5 | 3 |
| Should be checked, feed back should be offered | 3 | 3 |
| Should be functional | 2 | 1 |
| Shouldn't be given to complete subjects | 2 | 1 |
| Isn't always necessary, should be given occasionally | 2 | 1 |
| **Total** | **233** | **100** |

To determine their views on homework, the teachers were asked "What are your thoughts on homework?" In addition the questions "Is giving homework necessary? Why?", "Do you think homework is effective/important?" were asked, and because close answers were given for these three questions, they have been grouped together and interpreted through a single table. According to Table 2, 28% of teachers think giving homework is necessary, that homework should be given and is beneficial. They have expressed that homework should be given for enforcement

(16%) and repetition (15%). The sentences on this subject are as such: one of the teachers expresses that;

> *"Homework is definitely needed. If they don't repeat the things they learn through the day they cannot reinforce them*." (T9)

Other sentences supporting this are;

> *"Homework is the hands and feet of teachers. It is important for theirto be repetition of wherever we have left off."* (T10)

> *"… It helps to reinforce subjects taught, and are found difficult to learn, it helps to make them practical and easier to understand. There can't be a lesson without homework!"* (T36)

As can be seen from the sentences, it is thought that there cannot be repetition and reinforcement without homework, and it is emphasised that reinforcement is effective in learning.

In addition, the view that homework shouldn't be excessive, shoudn't be opressing or boring, and shouldn't tire the child is one of the most common, with a proportion of 9%. The thoughts on this are given by;

> *"Students should be given a density of homework they can do. For example, I think it is unnecessary to give pages and pages of to a student that is 5 and a half, six years old. If enough practice is done in class then giving homework is needless."* (T18)

> *"Homework should be given, but not too much. If too much is given the student may become tired of the lesson, can start having negative thoughts about the lesson."* (T24)

> *"I think students shouldn't be smothered with homework given too much, especially in the primary school stage. For primary school students, the sense of responsibility should be reinforced by giving fewer project works."* (T29)

The teachers have emphasised that too much homework can have negative effects on students, isn't needed for younger ages, and that homework given should be more to the objective of reinforcing a sense of responsibility.

That homework given should not be done by the parents is also among the views expressed (3%). A teacher expresses thoughts on this subject:

> *"There is a possibility that the parents might do the homework. I think homework that can be directly monitored should be given."* (T23)

In addition to being effective and important, that the quality of homework is also important is among the views expressed (3%).

> *"The quality of homework is important. I think it is effective."* (T16)

There are also expressions that suggest giving homework suitable to an objective will be more efficient.

> *"If homework is suitable for the target, and is designed to contribute to the child's psychomotor and mental development (not by rote), it makes learning easier. It increases preparedness."* (T25)

Views that homework is not necessary, that it isn't needed if enough practice is done in class, that it is not productive and that it is given as a punishment have a ratio of 9%.

Table 3

*Frequencies and Percentages of Things that Bothered Teachers most about Homework They were given as Students*

| **Views** | **f** | **%** |
|---|---|---|
| That it was too much, that it took up time | 23 | 27 |
| Writing and summarising | 13 | 15 |
| That it was long and unnecessary | 11 | 13 |
| Homework that was off-topic | 5 | 6 |
| That it is impracticle and without purpose | 5 | 6 |
| That homework isn't examined | 4 | 5 |
| That it is given on subjects where examples weren't given and that haven't been studied in class | 4 | 5 |
| Repetition of the same test | 4 | 5 |
| Not suitable for student's level | 4 | 5 |
| Not leaving any free time | 3 | 3 |
| Given as punishment | 2 | 2 |
| Being done by parents | 2 | 2 |
| Other (project homework, group homework, dependent on grades, being expensive, requiring handiness) | 6 | 7 |
| **Total** | **86** | **100** |

27% of the teachers have said that the homework they were given were too much and too time consuming in response to the question "What bothered you the most about homework you were given in your time as a student?" T20 complained about the excess of homework, saying;

> *"Doing homework that went on for pages and pages. Having no time left for playing games."*

15% of the teachers have expressed that they did not like homework that consisted of writing and summaries. T39 has expressed thoughts on this matter;

*"... Example: Write the same thing five times. Being given homework on and being held responsible for subjects we did not learn about, like writing summaries, solving problems, coming up with questions."*

13% of the teachers said that they did not like homework that they thought was too long and unnecessary.

Table 4

*Frequencies and Percentages of whether Courses were taken on How to Give Homework*

| **Views** | **f** | **%** |
|---|---|---|
| Yes | 13 | 24 |
| No | 42 | 76 |
| **Total** | **55** | **100** |

When asked whether or not they received any courses on how to give homework, it is seen that 76% of the teachers said "No." The teachers that replied affirmative (24%) that how to give homework was touched upon directly or indirectly in courses such as classroom management (n=3), assessment and evaluation (n=3), principles and methods in teaching (n=4), material development (n=1), programme development (n=1), educational psychology (n=1), developmental psychology (n=1), and teaching science and technology (n=1). A teacher says as an explanation that information was given on homework in the assessment and evaluation class;

*"Our teacher mentioned it as an extra in the Assessment and Evaluation class."* (T17)

Table 5

*Frequencies and Percentages of Where They Learned How to Give Homework and How Much of It to Give*

| **Views** | **f** | **%** |
|---|---|---|
| Through experience/through doing and living | 29 | 39 |
| Through students' reactions, the students situation | 8 | 11 |
| Hasn't learned | 8 | 11 |
| Through instructors at university | 5 | 7 |
| During interning | 5 | 7 |
| Through observation | 4 | 6 |
| From their own education | 4 | 6 |
| From courses in university, books | 4 | 6 |
| From bad examples | 2 | 3 |
| From colleagues | 1 | 1 |
| **Total** | **70** | **100** |

To the question "How did you learn how to give homework and how much of it to give" 39% of the teachers answered that they learned through their own experiences. One of these teachers puts the situation as such;

> *"I've come up with a sort of homework system of my own, through the homework given to me throughout my time as a student, the effects these had on me, and now as a parent observing the effects homework has on me and my child."* (T54)

11% of the teachers, come up with a way of giving homework, through the reactions they get from students and depending on the situation of the students. On this subject, a teacher voices opinions about indicating that the ideas of colleagues was also took part in learning how to give homework;

> *"Negative types of homework from my own time as a student, already formed an idea. In addition, when I started the profession the ideas of the colleagues I worked with, and most importantly the reactions I got from the students were very informative."*(T3)

11% of the teachers say that they did not learn how to give homework, 7% that they learned from lecturers in university. The sentences uttered the rarest are that they learned through colleagues (1%) and from bad examples (3%).

## Conclusion and Discussion

The research examines teachers' views regarding homework. As result of the analyses, the views expressed most frequently by teachers are that homework is necessary, important and beneficial; and that homework should be given with the objective of reinforcement and repetition. Considering that learning should not be confined to school life and should continue in the process beyond school hours the results are as expected. In their research, Özer & Öcal (2013), have found that teachers have the views and suggestions that "homework should definitely be given for it reinforces learning." Babadoğan (1990) describes homework as a series of tasks following education in order to reinforce learnings, thus expressing that homework creates settings for knowledge and skills to be reinforced. In line of this information, another finding often cited by teachers is that homework should not be excessive and should be given in a way that doesn't overwhelm and tire the students. Yet it is known that the amount of homework given is increasing every year. One study shows that there is a significant increase in the amount of homework given between the years 1981 (52 hours a week) and 1997 (128 hours a week) (Cooper, Robinson & Patall, 2006). It can also be said that teachers emphasise that homework should be functional, that homework given to keep students busy or detain them creates weariness, and that excessive amounts of homework limits time for their social, psychological and moral development (Cooper, 2006; Kralovec & Buell, 2000).

To the question "Is giving homework necessary? Why?" the most common answer given by teachers is that, "yes, it is necessary." The reasons it is necessary are said to be repetition and reinforcement. It can also be said that the most common type of homework these teachers have encountered in their own educations have been repetition homeworks. That this kind of homework tends to be more towards memorisation, contains low level information, is easier to forget and is more

effective for students of younger ages is in line with the fact that the participants are primary school teachers. In the research by Epstein (2001), it was found that homework was given to reinforce the learnings of the classroom, helping the students come to class prepared, achieving parent participation, supporting individual improvement, creating a homework policy, and to improve public relations (informing parents of activities and operations taking place at school. Also Ersoy & Anagün (2009) as well as Muhlenbruk and co.'s (2000) findings similarly show that teachers give homework more to the end of reinforcement of learnings.

To ensure that learnings are permanent, for students to gain a sense of responsibility and to achieve a level of preparedness before class; are less cited reasons for giving homework. When it is considered that raising students' awareness of the subject before their participation in class is instrumental for effective learning, that the frequencies are low is unexpected. Also, at a time when information changes rapidly, it is very difficult for educational objectives to be fulfilled in the limited classroom time with the limited information that can be given. As a result it becomes mandatory that the learners bear the responsibility of their own learnings. Even though homework plays an important role in developing the student's responsibility of learning, and responsibility of carrying out a given task very few of the teachers have expressed views on this matter. Also in the literature, the findings of Johnson and Pontius's (1989) study, support the view that teachers give out homework in order to develop a sense of responsibility in their students.

The answers most frequently given to the question "What bothered you the most about homework you were given in your time as a student?" were that it was too much, that it was time consuming, that it was long and unnecessary, and homework focusing on writing and summarising. That the homework given is not suitable to the students' age, it is aimed to keep the students busy and does not contribute to the student academically is an indication that it is given by teachers that are not well equipped and knowledgeable enough on the subject ofhomework. It's possible to say that teachers have encountered similar problems in their own educations and that these problems continue to persist at the current time. There are a number of different learning strategies for students' learnings to become permanent and for them to gain the habit of studying regularly. Summarising, taking notes, repetition, interpretation, gathering attention are some of these strategies. Homework creates opportunities for these strategies to be put to use. Yet when homework containing these strategies is given to the students aimlessly, in a way that inconveniences students can lead to students developing negative attitudes towards the use of these strategies.

When asked if they received and education on how to give homework during their training, 76% of teachers replied "no." Those who replied affirmative, said that how to give homework was mentioned in the courses; classroom management (n=3), assessment and evaluation (n=3), principles and methods in teaching (n=4), material development (n=1), programme development (n=1), educational psychology (n=1), developmental psychology (n=1), and teaching science and technology (n=1).76% of the teachers not receiving any education on how to give homework can be explained

with the lack of this subject on teacher training curriculums. In the explanations given on which classes the subject of homework was touched upon, the fact that the names of courses varied indicates that the mentioning of the subject directly or indirectly depends on the lecturer's individual efforts. The variety of courses and the implication that the lecturers may touch upon the subject of homework approaching it from their own field of expertise also makes it difficult to say that lecturers themselves have received a similar training on the subject.

To the question, "Where did you learn how to give homework and how much of it to give?" 30% of teachers have replied that they have learned from their own experience, and 11% replied that they learned through the reactions of their students. Another 11% have again expressed that they have not learned. It is a known fact that homework that lacks quality does more harm than good to students. That teachers give out homework without any foundation for such an important subject is a matter of consideration.

According to the research findings, it is seen that how to give homework and how much homework should be given, how homework can be given effectively is not given a sufficient place or indeed any place at all in teacher training or in the learning and teaching process and monitoring learning and development proficiency fields that are within the general proficiencies of the teaching profession. In this light, it is thought that revising classroom teaching programmes in education faculties and making changes to this end will be beneficial. That candidate teachers do not receive any systematic education on how to give homework, and that teachers are left to rely completely on their experiences – good or bad – on the process, quality and volume of giving homework indicates that issues in this matter will persist. It is necessary for both professional and trainee teachers to be equipped with a scientifically based knowledge on a matter that plays such a significant role in the learning and teaching process. It is not enough that only trainee teachers receive education, and it is necessary also for all teachers and administrators in active duty within the educational system to receive additional vocational training.

In addition it is important for homework not to be given when not in accordance with regulations, for teachers to consider whether or not the homework will benefit students before giving it, and not give homework as a form of punishment. How much of a student's time a certain homework will take up needs to be considered. Students need to be given homework suited to their ages, interests and development. The time homework consumes should not pass 10-20 minutes for primary school, and one hour for secondary school and highschool (Woolfolk, Hoy, 2015). Repetetive homework should be preferred with students of younger ages, and as age increases more place should be given to homework that encourages the student to structure information, solve problems, think scientifically, and learn how to find and access sources of information.

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# Two Birds with One Stone: Enhancing Technology Perception with Peer Interaction using Web 2.0*

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## Abstract

The contribution of pre-service teachers using Web 2.0 tools for peer interaction to provide the other pre-service teachers is more remarkable than pre-service teachers who use Web 2.0 tools for individual purposes. This research aims to determine the change of technology perceptions of pre-service teachers studying in learning environments created by using Web 2.0 tools which were Wikipedia, Facebook and blogs. This research also strives to reveal the underlying causes of this change within the context of peer learning. Sixty-nine pre-service teachers who attended Computer-2 Class in a large public university participated in this research and the sequential explanatory mixed method was applied. In this research the qualitative data were collected by using Scale of Technological Perception in the form of pre and post-tests. Then, quantitative data were collected by interview forms to determine the effect of learning type on technology perception and their choice of peer or individual learning. The findings obtained from qualitative data indicate a significant difference between pre and post test scores as the score is higher in post-test regarding technology perceptions. The analysis of the interviews show that peer learning promotes computer skills, high level learning skills. In addition, it develops affective features such as socializing, interaction and psychological effects.

***Keywords:*** information and communication technologies, pre-services students' technology perception, peer interaction, technology skills

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# Bir Taşla İki Kuş: Web 2.0 Kullanarak Akran Etkileşimi Yoluyla Teknoloji Algılarını Artırma

## Öz

Öğretmen adaylarının Web 2.0 araçlarını akranları ile kullanımı esnasındaki etkileşimi, onlara bireysel amaçlar doğrultusundaki kullanıma göre dikkate değer düzeyde katkı sağlamaktadır. Web 2.0 araçları, kullanıcıların etkin biçimde yer aldığı bir web ortamı yaratmıştır. Öğretmen adayları; bilgiye ulaşma, bilgiyi yapılandırma ve yayma sürecinde kullanabileceği bir araçla yüzyüzedir. Bu araştırmanın amacı, Web 2.0 araçlarından Vikipedi, Facebook ve Ağ Günlüklerinin kullanıldığı öğrenme çevresinde öğretmen adaylarının teknoloji algılarındaki değişimi belirlemektir. Araştırma, aynı zamanda akran öğrenimi bağlamında bu değişimin altında yatan nedenleri ortaya koymayı amaçlamıştır. Bir devlet üniversitesinde öğrenim gören Bilgisayar 2 dersini almakta olan altmış dokuz öğretmen adayının katıldığı araştırmada ardışık açıklayıcı karma desen kullanılmıştır. Araştırmada nicel veri, ön test ve son test olarak uygulanan "Teknoloji Algısı" ölçeği ile toplanmıştır. Nitel veri ise görüşme formları aracılığıyla öğretmen adaylarının akran ve bireysel öğrenme yolu tercihlerine göre toplanmıştır. Araştırma sonuçlarına göre; öğretmen adaylarının teknoloji algılarına yönelik ön test son test puanları, son test puanları lehine anlamlı farklılık göstermektedir. Öğretmen adaylarının teknoloji algıları Web 2.0 araçlarının kullanımı ile artmakta ve bu artış anlamlı biçimde farklılaşmaktadır. Görüşme analizi sonuçlarına göre ise, akran öğrenmenin bilgisayar ve üst düzey düşünme becerilerinin yanı sıra kültürel yönden de gelişim sağladığı belirlenmiştir. Bununla birlikte sosyalleşme, etkileşim ve psikolojik ögeler gibi duyuşsal özelliklerin de geliştiği saptanmıştır.

***Anahtar Sözcükler:*** bilgi ve iletişim teknolojileri, öğretmen adaylarının teknoloji algıları, akran etkileşimi, teknoloji becerileri

## Introduction

In recent years, the rapid spread of technology has resulted in education and technology integration (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012). The current push to prepare students for the 21st century (Bellanca & Brandt, 2010; Ertmer et al., 2012) has put more technology in classrooms (Ruggiero & Mong, 2015). Especially, web technologies have provided students with new experiences different than they used to. Web 2.0 tools (e.g. blogs, wikis, podcasts, social bookmarks, and social networks) constitute one group of web technologies that offer several powerful digital and social media instruments supporting participation and interaction in various digital formats (Çakır, Yükseltürk & Top, 2015).

The available technology lets students collaborate with peers on projects, engage more deeply with content, practice skills, and receive feedback on their progress (Hamdan, McKnight, McKnight & Arfstrom, 2013). Web 2.0 tools provide an educational environment facilitating student peer integration, which produces a bi-directional benefit for the dissemination of technology in education and effective peer interaction. Therefore, not only the effect of peer interaction on students' technology perception and technology utilization skills but also the impact of technology on peer interaction are substantial.

## Literature Review

### Peer learning by using Web 2.0

According to constructivist learning approach, learning means producing new ideas by connecting the past information with the new information (Wheatley, 1991).According to social constructivism information is created with a co-decision of a social group. In social context while the meaning is configured individuals affect the other individual's' thoughts by sharing the meaning which they created and are affected from these individuals (Fer & Cırık, 2007). Social constructivism enables the students to collaborate with peers thereof and thereby provides learning. Given social constructivist studies it is observed that learning using peer exhibits better performance than individualized education (Dillenbourg, Baker, Blaye & O'Malley, 1995).

One of the platforms which will support learning based on collaboration with peer technically is online learning environments. For learners online learning environment provides place and time flexibility (Waschull, 2001); ease of access to source; collaboration ability (USA Education, 2009); reusing and updating of materials and sources; personalized education; new education methods; evaluation; and documentation (Cook, 2007). For learners while online learning environment offers an opportunity for co-learning with peers (Chiong & Jovanovic, 2012) it also supports communication, interaction and collaboration (Chan & Ridgway, 2006; Halic, Lee, Paulus & Spence, 2010; Kang, Bonk & Chun Ki, 2011).

Today, Web 2.0 technologies which are one of online learning environments are the environments which are commonly used among youths. Web 2.0 technologies are second generation web based online systems which are created by internet users jointly (Peltier-Davis, 2009), the users of which may act with an active collaboration and sharing logic (Agopyan & Beklen, 2008). For example blogs which are one of Web 2.0 technologies are such web sites in which computer users share something for the other internet users. The users may display each other's pages and write comment. The user may create and publish his/her own web page context without any need for technical skill while preparing his/her blog. The user may add comment and discussion to publications; thereby an interaction with the other users can achieved (Alexander, 2006).

Blogs develop writing skills of the user, encourages critical thinking with collaborative learning; and provides an active learning and feedback (Ocak, Gökçearslan, Solmaz, 2014). Seitzinger, 2006). One of Web 2.0 tools, which supports collaborative writing is wiki (Pifarré & Fisher, 2011). Wikis provide collaborative writing, joint document creation and preparation; and information sharing (Gökçearslan & Özcan, 2011; Peled, Bar-Shalom & Sharon, 2012; Wichmann & Rummel, 2013). Each wiki user may be a reader or a user who wants to access the information; however this user may be a writer who wants to share information. So it can be part of a community based on a "multi" learning approach created jointly instead of "single" approach created by an individual access (Altun, 2008). Facebook which is one of Web 2.0 technologies to be used for supporting collaborative learning provides a personalized profile for users. It offers an opportunity for users to communicate, share information, create a friend list, create a photograph album, post to a friend's wall, create a group, share their opinions during group discussions, and play game (Selwyn, 2007). Facebook usage among peers improves motivation and courage (West, Lewis & Currie, 2009), enables the students to take a positive attitude with respect to learning and increases learning outcomes (Kirschner & Karpinski, 2010). The features represented by Web 2.0 tools support peer education.

## Learning using peer and technology perception

In many studies relating to peer education it was found that collaboration of peers had a positive effect on learning process. It was found that collaboration with peer facilitated learning process (Topping, 2005; Kavanoz & Yüksel, 2010) and had a positive effect on academic performance; class attendance of a student and evaluation result (Hurley, McKay, Scott & James, 2003). Moreover it was found that the students participated in collaborative group study with peer thereof took a positive attitude for mathematics (Hooker, 2010); behavioral disorders of the students exhibiting behavioral disorders were reduced and their academic success was improved (Kiarie, 2003); oral problem solving performances of the students who had visual disability were increased (Karakoç, 2002); reading and mathematics skills of preschool students were affected positively (Weidinger, 2005); reading fluency and reading comprehension performances of high school students were developed

positively (Fuchs, Fuchs & Kazdan, 1999); success and attitude of the students were developed positively in science lessons (Sencar-Tokgöz, 2007); interest of students in physics lessons and success of students in the lesson were increased (Demirci, 2005); and knowledge and skills of students studying medicine were developed (Tanrıöver, İzbırak, Akan, Gürol, Demirtaş, Kaspar & Vitrinel, 2010).

It was found that in the studies carried out in different fields in the literature, peer learning affected learning outcomes. In the case of peer interaction in the field of information and communication technology it has not been found any study relating to the computer skills of the students and the way they perceive the computer in national and international literature. It is thought that evaluation of changes in computer using skills and the computer perception of the students who studied in online learning environments supporting peer learning will contribute to the literature. It was found that the computer perception of the students was positive; they were disposed to participate in the activities relating to computers; they expected to be successful; they solved any problems relating to the computers perseveringly and patiently and they were in a positive relationship with their computer performances (Murphy, Coover & Owen, 1989); and they solved any problem relating to computer usage in an easier way (Usluel & Seferoğlu, 2003). Moreover, the way students perceive the technology is an important factor in terms of popularizing Information and Communication Technologies (ICT) and being a technology manufacturer/developer instead of being a technology consumer. Using Web 2.0 technologies which are commonly used by peers in their daily lives and which support collaborative studies for educational environments is important as they improve the computer skills and affect the computer perceptions, thereby contributing to popularizing the ICT integration. It was found that in the study to Sadaf, Newby and Ertmer (2012) which investigated the Web 2.0 perceptions of pre-service teachers these technologies perceive the computer positively by offering an opportunity for meeting the requirements of digital era students, improving the interaction with learning and peer and participating in the interaction from everywhere.

Web 2.0 environments may be both a "*tool*" which supports learning using peer and a "*method*" for improving the computer skills and the computer perceptions of the students. Thus, learning using peer in Web 2.0 tools technically supports communication and interaction between the students (as a tool) whereas it may contribute to improving the computer skills and technology perceptions of the students (as a method). When used as a method it may contribute to popularizing ICT and improving the computer skills of the students. Thus, a trend which will provide popularizing of ICT in educational environments may be observed. However, it has to be revealed that what kind of interaction is present between the technology perception and peer education and the underlying cause of this interaction. Starting from this point the purpose of this study was to determine perceptions of the students and causes of changes in their perceptions as a result of Web 2.0 technologies usage experiences of the students who executed a group study with peers thereof. This study is important in terms of changes in perception relating to technology using skill

and the technology per se by using Web 2.0 tools of peer education. Data provides a source for educators with respect to offering a suggestion for learning environment design with peer using Web 2.0 tools in the computer education; a source for researches with respect to Web 2.0 tool usage in learning environments with peer in popularizing ICT; and a source for both educators and researches with respect to effect of Web 2.0 usage both as a tool and a purpose on computer skills, communication skills and the other educational acquisitions. Answers for the following questions were sought for this purpose:

1. Are there any significant differences between pre-testing and post-testing scores belonging to technology perceptions of the students who experienced collaborative learning by usingWeb 2.0 technologies?
2. What are the knowledge and skills acquired from peers by the students who experienced peer learning by using Web 2.0 technologies?
3. What are the affective acquisitions of the students who experienced peer learning by using Web 2.0 technologies?
4. What are the reasons of the students for working individually or with peer by using Web 2.0 technologies?

## Method

### Design of the Study

A sequential mixed design was used in the study as the change in students' perceptions for quantitative aspect and the reason of this change for qualitative aspect had to be revealed. Sequential mixed design studies are the studies in which quantitative data is collected in the first phase and qualitative data is collected in the second phase (Creswell, 2013). In the study a significant difference was detected in technology perceptions of the students in the first stage whereas qualitative solutions were considered in the second stage in order to determine the reasons of this change.

### Study Group

Study group consists of 69 pre-service teachers who attended school observation in a public university in the school year 2013-2014. Student distribution by genders is provided in Table 1.

Table 1

*Distributions of Study Group Students*

| Gender | f | % |
|---|---|---|
| Male | 35 | 50.7 |
| Female | 34 | 49.3 |
| Total | 69 | 100.0 |

When Table 1 is examined it is seen that 50.7% of pre-service teachers are male students (n=35) whereas 49.3% of them are female students (n=34).

## Data Collection Tools

Data collection tools used in the study are provided below:

### Technology perception scale

"Technology Perception Scale" developed by Tınmaz (2004) was used in order to measure the perceptions of the students on using technology in education. This scale consists of 28 items in total. According to validity and reliability study carried out by Tınmaz (2004) the scale has two factors and Cronbach Alpha coefficient of the first factor was calculated as .89 whereas Cronbach Alpha coefficient of the second factor was calculated as .81. Internal inconsistency coefficient for whole test is .86. Reliability coefficient for this study was found .96.

### Interview form for determining effect of peer education on technology perception

The object of the interview form for determining effect of peer education on technology perceptions is to investigate whether the underlying causes of technology usage in education and perception changes are caused by peer education; and their relationships. Interview form consists of five open-ended questions which provide detailed information and which are prepared in accordance with interview question preparing techniques. The questions consist of three main themes: effect of peer collaboration on technology perception, on computer skills and on creativity. Interview form takes its final form after feedbacks are obtained from domain experts. The questions in the interview form are provided below:

1. What can you say about your friend's contribution to you when creating an environment using Web 2.0 technologies?
2. What have you learned from your group mate?
3. What do you think about your friend's effect on your creativity when creating an environment?
4. What are the contributions of your group mate to your computer skills when creating an environment?
5. Do you prefer doing such study individually or in group? Why?

## Data Analysis and Study Steps

Content analyzes were performed on the collected data and congruity ratios were calculated (0.89) between coders for the encodings performed separately by the researchers. Peer education is carried out systematically. All practices and activities to be done should be configured before providing education, their durations and planning should be determined and the groups should be specified. In the following

meetings the things having been completed and solutions for activities which haven't been completed should be predetermined (Doğan & Ulukol, 2010; Tümer, 2007).

Peer education in the study was carried out within Computer-II lesson. In Computer-II lesson applications in three fields relating to technique, pedagogics and context about Web 2.0 technologies and their usage in education were developed. Tasks were assigned weekly for lesson environment designs using Web 2.0 technologies. In this context tasks were assigned weekly for students such as technical applications like file sharing, file receiving, video/picture uploading and creating a forum/group/discussion, and content creation relating to selecting the contents about acquisitions chosen by the students; distributing these contents by weeks; and configuring the same.

The students in the study were randomly grouped and enabled to study with their group mates during the term. During the study course "Facebook", "Wiki" and "Blog" were the preferred ones which were used commonly among Web 2.0 technologies taught in the lesson and which were accessed easily by the students; and each group were divided into three groups of 23 students in total. Groups were assigned randomly in such a manner that each group comprised at least two students. "Technology Perception Scale" was applied to the students at the start of the research. The above-mentioned applications were assigned to the students during the term and an application of 14 weeks was performed. During the term, works presented every week were discussed and scored in the class. At the end of the term "Technology Perception Scale" was reapplied to the students.

After application, data (meets normality assumptions) providing the required assumptions in order to compare the pre-testing and post-testing scores obtained from Technology Perception Scale (TPS) were subjected to t-test for the related sample. After a significant difference between pre-testing and post-testing scores was determined in the analysis results, interviews were made with the students to determine the causes. After data obtained from each student interview were transcribed, these data were subjected to inductive content analysis. Data were coded in two cycles; in the first cycle contrast coding and in vivo coding were performed whereas in the second cycle focused coding and pattern coding were performed.

Strategies such as diversity (triangulation), long-term interaction, expertization and participant verification are proposed in order to provide credibility of qualitative data (Linkoln & Guba, 1985; Patton, 2014). In this study two experts worked with a practitioner in order to provide credibility during the study. The experts provided feedbacks relating to process monitoring and evaluating, raw data reviewing and raw data suitability. Moreover, credibility of the study is increased by explaining in detail the number and characteristics of the participants, the way they are chosen, data collection tools used in the study and analysis techniques (Creswell & Miller, 2000). Data collection tool and analysis techniques used in the study method were described in detail above. "Detailed description" may be made in order to provide transmissibility in the qualitative study (Meriam, 2009). In this study while finding

were presented, data obtained via interviews were presented by interpreting the same and transmissibility of the study was tried to be performed by supporting the themes obtained as a result of data analysis via direct citations.

## Results

Under this title, it is aimed to answer research questions by supporting with data analysis.

1. Are there any significant differences between pre-testing and post-testing scores belonging to technology perceptions of the students who experienced collaborative learning by using Web 2.0 technologies?

Results of t-test performed in order to determine significance of the difference between average scores of pre-testing and post-testing results for related samples are provided in Table 2.

Table 2

*T-test results for TPS scores-related sample*

| | N | X | s | Sd | t | p |
|---|---|---|---|---|---|---|
| Pre-test | 69 | 43.14 | 22.02 | 68 | -4.988 | .010 |
| Post-test | 69 | 57.89 | 19.62 | | | |

It was seen that a significant increase between technological perception scores for the study was found after the studies of the students with peer about Web 2.0 technologies ($7(68)=4.98$, $p<.01$). It was seen that before the application average scores of technology perception were X=43,1 whereas these scores (X) were increased to 57.9 after studies with peer. This finding demonstrates that studying with peer has an important effect on increasing the perceptions of the students for the technology. Upon finding a significant difference after studies with peer with respect to using Web 2.0 technologies data obtained as a result of the interviews made in order to determine how this effect improves the students are provided below.

2. What are the knowledge and skills acquired from peers by the students who experienced peer learning by using Web 2.0 technologies?

It was benefit from qualitative data in order to revealing the reason of effect of studying with groups on students' technology perception.

The patterns obtained from the interviews with the students are provided in figure 1. It was determined that after the obtained data were coded students' acquisitions obtained from the studies with peer about Web 2.0 technologies were bidirectional: "effect on learning" and "affective features".

In students' opinions studying with peer supports learning in terms of "Development of General Computer Skills" and "Usage of Web 2.0 Tools". It was determined that in case of "Development of General Computer Skills" the students learned picture and graphic creation, shortcut keys, rapid keyboard usage and internet usage from their peers.

> *"…I further looked at many pictures and videos to put them in my blog. These helped me to have a vivid imagination and to improve my creativity. I tried to provide a colorful and dynamic ambiance and to create a colorful world."*
>
> *"My friend helped me to prepare graphics, to create interesting tables and to prepare applications."*
>
> *"He/she allowed us to practice our information on hardware and software…"*
>
> *"I have learned a lot of things about computer usage. I learned shortcut keys from my friend…"*
>
> *"They provided a positive contribution for me. I did not use the technology and the internet for education but I can find the information that I seek faster. Briefly, I figured out the key words."*
>
> *"…computer made me move faster."*

In students' opinions peers provided support for the skills such as creation of Blog, Facebook and Wiki environments, addition of video, picture and writing, file sharing, making arrangement and data input to the system with respect to "Web 2.0 tool usage" theme;

> *"I learned many things that I did not notice or I missed from my group mate. For example, I missed the video part while sharing something after created a blog, but my group mate said to me that we could add videos and showed me"*
>
> *"As me and my group mate have not ever created a blog we learned how to create and design a blog, how to share a video and a picture."*
>
> *Before this education I did not use the computer so much but I improved myself about organizing font style, type size and graphics; and adding and arranging videos. I understand which command works for which function, I can say that my usage speed of keyboard has improved"*
>
> *"…I learned more about file extensions and blog usage that I knew previously.", "…I learned to use link and to share picture and video"*

In addition, students specified that their skills such as orthographic usage, report preparing and information arrangement except for computer usage were improved when they studied with their peers.

*"I learned new things. For example, I learned how to prepare a report by help of my friend."*

*"When preparing a report I did not know how to use but my friend helped me about these arrangements."*

*"My group mate was better than me about orthographic rules. I realized so many things that I have not thought before with his/her helps"*

*"I learned how to edit pages, what and how to add something, how to share a writing and picture from him/her."*

The students specified that studying with their peers was effective to see alternative aspects and to develop creativity and discussion skills. In addition, they specified that studying with their peers enabled them to gain a different point of view and to see effectiveness of collaboration, thereby providing communication persistence. Based upon all these coding processes it can be said that some of the students studying with peer have developed "high level thinking skills" thereof.

*"My group mate thought things that I did not. Thus, blog had different point of views, different likes and different expression techniques."*

*"...Of course. We did our homework by discussing and exchanging opinions with each other."*

*"I learned to think multidimensional instead of thinking one-dimensional."*

*"...I learned mostly about creativity from him/her, he/she told me thing that did not occur in my mind."*

*"As I said he/she mostly contributed to my creativity rather than my computer skills."*

In addition to these the students specified that their point of view for learning changed when they studied with peers. The reasons for this is that peers simplify the work and play a facilitating role for learning; and that students learns practical information and they have fun while doing these.

*".... He/she made me share something and do it in a correct and rapid way."*

*"He/she allowed me to learn some of fast writing techniques."*

*"...He/she helped me to use faster and how to access some information faster"*

*"...They helped me to be more practical."*

*"...He/she helped me for the problems that I encountered while using computer."*

*"Of course they had effects on me. I had fun."*

*"…. Studying together was more effective when education combined with entertainment."*

3. What are the affective acquisitions of the students who experienced peer learning by using Web 2.0 technologies?

It is seen that as a result of interviews studying with peers not only supports some acquisitions about learning but also supports some acquisitions in terms of affective aspect. According to coding obtained from data, affective features are grouped into three information category: psychological change, interaction and effect to socialization.

The students specified that in the studies which they performed via Web 2.0 technologies they improved their friendship relationships and this is resulted from the fact that they learned to have a healthy communication. Moreover, the students emphasized that collaboration increased cooperation and spirit of sharing. As a result, the students specified that collaboration improved their socializing skills.

*"I learned to be sharer, helpful and most importantly good-humored."*

*"…. information and idea exchange facilitates our work and also enriches our social sharing."*

*"…. studying with a group is more amusing. We share and discuss our ideas……"*

*"I learned how to study and to use social media from my group mates."*

The students stated that they learned to collaborate, job share and show patience while studying with their peers on Web 2.0 subject, and that their collaboration and responsibility feelings developed. Considering all these information categories, it may be said that studying of the students with their peers over Web 2.0 has improved their interaction skills.

*"...due to collaboration, we could prepare a funnier blog page with alternatives"*

*"...we exchanged ideas. We helped each other..."*

*"...yes, we created an environment by collaborating with group mates. We had information exchanges..."*

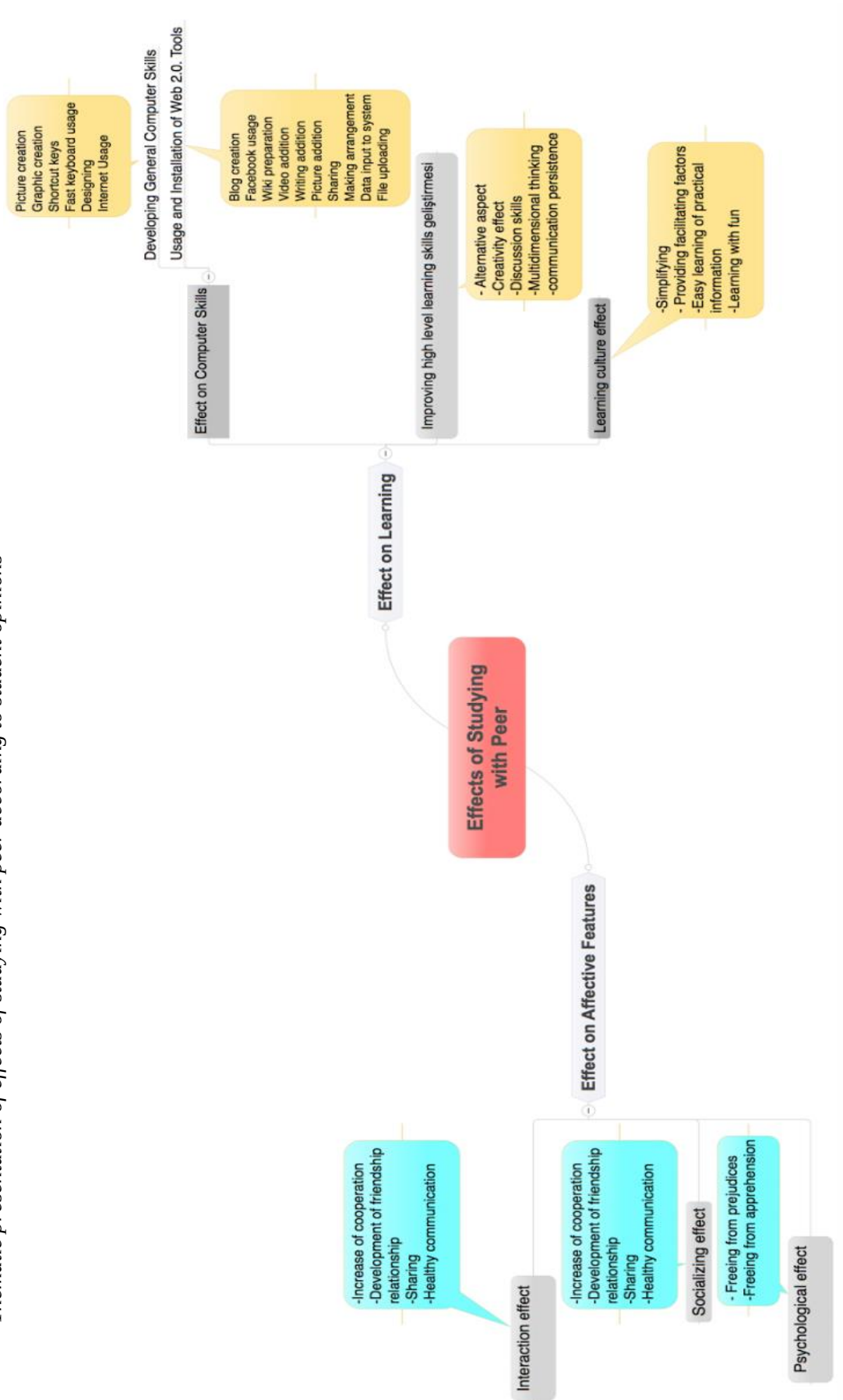
*"I learned that much study was needed and responsibility should be fulfilled on time"*

*"The most important thing I learned while creating a blog was patience along with effectively using it"*

*"... to move together. I learned to combine our thoughts".*

Figure 1

*Thematic presentation of effects of studying with peer according to student opinions*



Also, the students who studied with peers stated that group works helped them to eliminate the prejudices regarding technology and dimish anxiety level about technology usage.

> *"Firstly it was too anxious, then I learned that I shouldn't worry this much and we should not be prejudiced"*
>
> *"...I was too worried while using computer, it lessened thanks to my friend"*
>
> *"I didn't know how to create a blog and I thought that I would be hard, but, it wasn't actually, I understood when my friend explained me."*

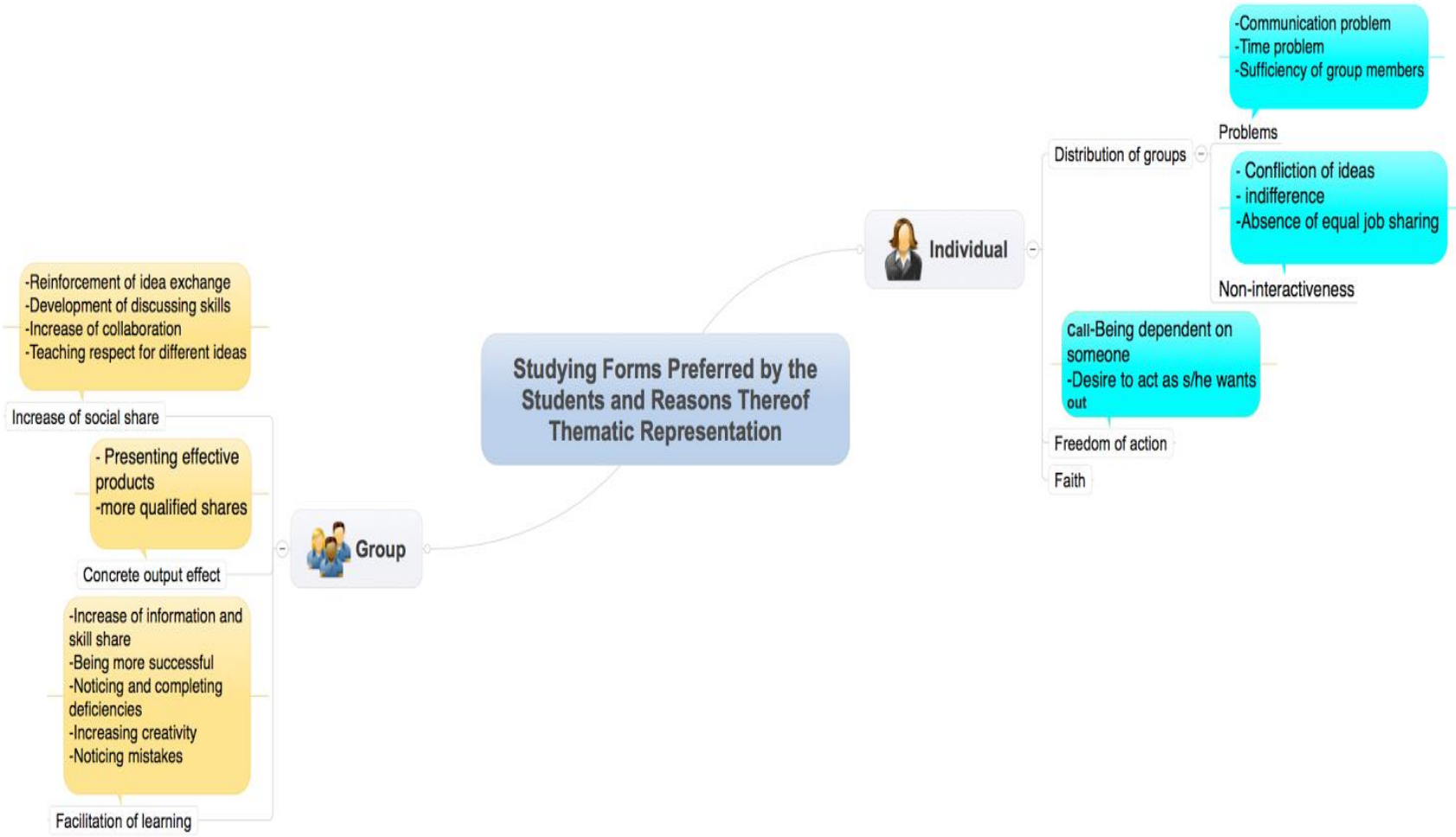
When generally summarized, it is seen that the effect of the studies of the students with their peers are positive and have different angles on learning event. Also, it is seen that these gains gave effect on affective features as well. Due to interaction, the students may be said to have developed socialization feelings from different perspectives. Starting from this point, we state that students studying with peers on Web 2.0 environment have improved their skills regarding using technology and this situation influence positively the students' technology perception

4. What are the reasons of the students for working individually or with peer by using Web 2.0 technologies?

In this chapter, it was tried to determine the themes regarding the effect of peer study and individual study on students' technology perceptions separately. In another dimension of the study, studying type preferred in courses relating to technology by the students and their reasons were investigated. Fifty-two of the students stated that they wanted to study with group, thirteen of them stated that they wanted to study individually and five of them stated that they wanted to study in both ways. As a result of interviews made by the students, reasons behind preferences are given below (Figure 2).

Figure 2

*Studying Forms Preferred by the Students and Reasons thereof Thematic Representation*



The students desiring to work with group stated that they preferred it as group work's increasing social sharing, concrete output effect and facilitation of learning. The students indicated that working with their peers on Web 2.0 enforced idea exchange, improved discussing skills, enhanced cooperation and taught showing respect to different ideas. From this point, it may be said that working with peers enhanced social share of the students.

> *"I would like to work as a group because making information and idea exchange facilitates our work and enriches our social sharing"*
>
> *"… with group, because there may be better shares when done together"*
>
> *"It may be more advantageous to work as a group. We can make idea exchange with our group friends. We can make idea exchange"*
>
> *"I would like to work as a group as we can learn what we miss thanks to our group friends and we can present a better work"*
>
> *"I prefer group work. What is missing for one friend can be completed by the other"*
>
> *"I would like to work with a group. Because a better work is revealed with different opinions. Missing points are completed"*
>
> *"In this situation, we could create a funnier blog page with alternatives."*

The students preferred working with group within "concrete output effect" in terms of revealing effective products and making more qualified shares. Moreover, among the reasons of preferring working with group, there are faster learning of different information and skills, being more successful, noticing and completing deficiencies, increasing creativity and noticing mistakes.

> *"Because we could present more creative ideas by seeing the deficiency and mistake of the subject we prepared."*
>
> *"I would like to work with a group. Because it enabled us to notice and complete deficiencies and unnoticed points of each other"*
>
> *"I prefer making group study. One can complete the point the other misses"*
>
> *"I would like to study as a group. Because much more creative ideas can be presented. This adds a lot to creativity of people relating to this subject"*
>
> *"I would like to be in a group because different people present different creativities"*
>
> *"...I am a fan of group because one can learn a lot in that way. Constant information exchange and task distribution enable more success. Like in the proverb, 'two heads are better than one'"*

*"Studying as a group may be more advantageous. We can make idea exchange with our group mates. We can make information exchange. We can help each other. More diverse ideas enable us to present a more qualified study."*

Among students, there are the ones preferring to study alone along with those preferring the group study. Among the reasons of those preferring to learn individually about Web 2.0, there are provision of freedom of action, problems in distribution of groups and the idea that individual study is more effective. The students state that individually studying will provide freedom and will save from being dependent on a person. But, they precondition that information will not be incomplete while expressing this.

*"Individual. I have a change of doing better."*

*"...I would like to work individually. If I have complete information, I do not want to be dependent on someone."*

*"Individual. Because everyone should act in line with what they want."*

Moreover, the students state that they prefer individual studying due to inequalities and problems in distribution of groups. They indicated that they had the problems of communication and timing when they worked with groups and that the group members did not have sufficient interest. Also, they stated that there was confliction of ideas, inability to provide job sharing and problems of interaction due to indifference, thus they prefer to study individually.

*"I would like to work individually. Because you cannot study with your group mate or you try to do your best but your group mates do not care. That's why I wanted to work alone, and that's what happened."*

*"...individual because you cannot meet your group mate all the time"*

*" I would like to do such a study individually. Because you cannot see your group mates all the time."*

*"I prefer working individually in such studies. Because sometimes our tastes may differ from our group mates. Sometimes what I want to share in my blog or anywhere else may not be liked by my group mate, in this case I get upset for not doing what I want. Or else, if I share it, then my friend gets upset as s/he doesn't like it. Briefly, conflicts may arise, and this is not a good situation. But I can make group study with like-minded friends who I can get on with. Because I feel pleasure while doing that. In that, I can't say that I never work with any groups"*

Furthermore, five students stated that both group and individual study was effective. They stated to prefer studying both ways as studying with a group increased the shares and individual study developed self-studying skills. They stated that in case the group members were from people they know or have more information group studies would be more effective, or would be unsuccessful.

Generally looking, it is remarkable that majority of the students prefer group study. In their opinion, the greatest gain is social achievements. Along with all these, existence of the students desiring to study individually cannot be disregarded. However, considering that they focus on the problems in the group work, perhaps they may prefer working with a group in case of the elimination of the problems such as communication, telecommunication and group distribution. Especially, when considered reason of preferences of students performed by group study (See Figure 2), it is cleared that group study can support the students with regard to increasing technology perception. The two points emphasized by students such as facilitating learning as cognitive properties and increasing the social share as affective properties can promote students' technology perceptions.

## Discussion and Conclusion

The fact that economy is information-based has enforced social change. Accordingly, industry society predominant in the past is seen to be replaced by a new, information-based and service sector-directed society (Kaymas, 2010). In this change process, information and communication (ICT) technologies has become the most important component of information economy (OECD, 2010). ICT is an important driving force of daily life and economical activities (European Commission, 2011). This change in information and communication also reflects competencies of international organizations and competences evolve towards individuals' being digital citizens and effective use of technology in occupational improvement (ISTE, 2008). The key of popularization of information and communication technologies among individuals are again schools and courses in schools. Schools help students, as from early ages, reflect and manage their learning critically, work individually and in collaboration and develop competences to use all advantages provided by new technologies (European Commission, 2008). In popularization of information and communication technologies within school systems, peers have an important role along with teacher and administrators. Particularly, studying of students being in constant interaction in schools is also effective in technology use and popularization of ICT. From this point, it was aimed with this study to determine the change in perceptions of students working with their peers in Web 2.0 technologies subject towards technology and to reveal the effect of studying with peer on this change.

In the study, firstly the change in perceptions of students making studies relating to the use of Web 2.0 technologies with their peers towards technology was examined. Consequently, it was concluded that there was a significant increase in perceptions of the students studying with their peers towards technology. In a study conducted by Usta and Korkmaz (2010) with pre-service teachers, it was reported that positive perception towards technology affected attitude towards teaching profession, and as literacy level of technology increased, positive attitudes towards the use of technology in education process enhanced as well. Starting from this point of view, it may be said that this significant increase towards technological perceptions may be a basis-provider for using technology by pre-service teachers in

learning activities with the students. This may be said to be one of the most important factors in popularization of technology in education environments of peers.

As a consequence of interviews conducted for determination of whether this change in perceptions of the students was caused by studying with their peers, it was concluded that studying with peer about Web 2.0 technologies raised new achievements for learning and affective features. When generally summarized, it is seen that the effect of the studies of the students with their peers are positive and have different angles on learning event. Among achievement towards learning there are developments of computer and high level learning skills and other effects. The pre-service teachers stated that they learned development of computer skills such as installation of Web 2.0 tools and learning its use as well as graphical design, rapid use of keyboards, learning of shortcuts and internet use from their peers as well as learning report preparation and information arrangement. Similarly, in study of Sencar Tokgöz (2007) comparing traditional education and peer education in science lesson, it was concluded that peer education enhanced success with respect to traditional success. This situation in perceptions of the students being with their peers towards learning and technology contributed them to have achievements that can be used later. The pre-service teachers stated that studying with peer improved high level learning skills such as creativity, discussing ability, gaining different points of view, multi-dimensional thinking and idea exchange. In a similar study, it was also stated that the pre-service teachers were able to see more points of view due to the nature of discussion environments and enabled more reflection and supported high level thinking by enabling two-fold higher reflection with respect to individual studies (Brown, 2014).

Among competences expected from 21$^{st}$ century students, there are basic content information, information literacy, interdisciplinary information, problem solving, critical thinking, communication and collaboration, creativity, life information, occupational skills, cultural competence and ethical consciousness (Mishra & Kereluik, 2011). When gains of the students were examined, it was expressed that competences of the students studying with group were mostly acquired by studying with peers. The students stated that they learned Web 2.0 technologies faster and learned practical information easily and by fun. In similar studies made on study subject with Web 2.0 tools, similar results were expressed (Clark, Logan, Luckin, Mee & Oliver, 2009). Study results have a feature highlighting the importance of studying with peers on popularization of ICT in informational level. Because the students gain the skill required for ICT thanks to their peers.

Moreover, studying with peer seems to be effective in terms of attaining some affective gains. Among gains for affective features, there are socialization, learning collaboration and faith towards these technologies. The students stated that studying with peers contributed to socialization by increasing collaboration and share, improving friendship relationship, enabling being good-humored. Moreover, they stated that it supported them in terms of increasing responsibility feeling, enabling job sharing and teaching patience. In studies of Huang, Hood and Yoo (2013) and

Bennett, Bishop, Dalgarno, Waycott and Kennedy (2012) conducted on the effect of Web 2.0 tools on learning, active participation of the tools was determined. It was revealed with studies that social networks had features of improving communication skills of students and teachers, expanding participation, strengthening peer support and enabling collaboration-based learning (Lepi, 2012). Starting from this point of view, in these acquisitions of the students relating to cooperative study, features of Web 2.0 tools may be effective. This reveals the supporting feature of peer learning with Web 2.0 tools. When worked with their peers the students expressed that they got rid of prejudices towards technology and they had less worries on using technology. Furthermore, positive faiths of pre-service teachers towards Web 2.0 technologies and more effective learning of the students in this way are remarkable (Lei, 2009). When these acquired features are examined, peer learning may be important in gaining and popularizing some behaviors in ethical use of ICT.

These gains will support students in their adult periods as well in constant education compulsion within the scope of lifelong learning in 21st century. Moreover, gaining information of students in Web 2.0 and computer use provide proof on usability of learning with peer on computer and technology-based courses. Because what is expected from 21st century students is that they develop themselves in accordance with technological developments. Students having gained such studying habit can adopt technological integration without problems and become leaders in popularization of technology. Consequently, it may be said that students performing peers study on Web 2.0 technologies gain some positive gains academically and socially and have important roles in popularization of ICT in information and ethical level.

When type of study preferred about Web 2.0 technologies was examined, it was determined that 74% preferred peer, 18.58% preferred individual and 7.14% preferred both studies. When generally examined, it was remarkable that majority of the students preferred group study. The students preferring to study with group indicated that they preferred due to its contribution of improving interaction skills, revealing concrete outputs, facilitating learning, reinforcing idea exchange, developing discussing skills, increasing information, skill, social share and collaboration, and teaching to respect other ideas. The students also indicated that they preferred in terms of revealing effective products, making qualified shares, faster learning of different information and skills, being more successful and noticing and completing deficiencies. Similarly, in study of Koç (2011) conducted with pre-service teachers, it was concluded that peer assessment increased awareness towards own successful and weak sides, supported learning from successful and weak sides of their friends, increased responsibility of learning and development mutual support, increased collaboration and interaction, developed openness to critics, developed empathic and critical thinking, brought application skill of peer assessment and reinforced friendship relationships. In study of Shamir, Mevarech and Gida (2008), it was concluded that learning with peer help was more effective than individual learning.

Positive effect of group study has important consequences in terms of futuristic policies of teacher-raising institutions. According to the students, the greatest benefit of working with group is social gains. Studying with group teaches the consciousness of adaptation to social norms and living with other people within the socialization process. Moreover, they agree that studying with group accelerate the process of achieving academic gains. Because the students mostly stated that they learned faster and their practical information enhanced. From this point, studying with peer may be regarded as not only academic gains given at schools, but also as a tool of transferring academic information learned in time to each other. Because during this process, the students transfer their previous academic gains to their friends. This situation brings up active use with peers among the factors affecting the popularization of ICT.

Existence of the students that want to work individually cannot be disregarded. Among the reasons of preference of this studying type of the students preferring individual learning, there are provision of freedom of action, problems in distribution of groups and the idea that individual study is more effective. The students also state that they preferred individual study due to inequalities and problems in distribution of groups, problems of communication and timing, confliction of ideas and inability to provide job sharing. In similar studies, it was concluded that reasons such as selection of peer volunteers, conflictions experienced in school during education and insufficient success of selected peers did not prevent the usability of peer education (Module 1 peer education, 2009; Tümer, 2007). Nevertheless, some tools are presented to provide job sharing and minimizing communication and timing problems of web 2.0 technologies groups. The students focusing on the problems of working with groups may present group study in case of the elimination of the problems such as communication, telecommunication and group distribution.

The students indicating the effectiveness of both group and individual study stated that they preferred both types as group study increased shares and individual study developed self-studying skills. They stated that groups studies would be more effective when group members are those who they wanted and those having more information than themselves, otherwise they might be unsuccessful.

In sum, it may be said that studying with peer relating to Web 2.0 technologies brings academically and affectively positive gains to students and it may be used in technology-based courses. Moreover, use of Web 2.0 in different technology-based courses supports the students academically and provision of gains relating to life. In line with feedbacks from the students, studying with peer may be used as an effective tool in popularization of ICT. This improvement in computer skills may be said to have positive results in use of informatics technologies and lessening of computer *anxiety* levels of pre-service teachers.

Consequently, the study results provide a combined perspective for Web 2.0 technologies and determining peer relationship. The study results relating to the change in perceptions of the students towards technology will contribute to

researches and applications towards the use of Web 2.0 technologies in teacher education. Considering positive perception and study preferences relating to collaboration with peers in online problem-based, project-based studies, the study will draw a perspective in design of learning environments for new generation pre-service teachers. Considering the effects of use of Web 2.0 technologies with peers on the change of learning (ICT skills, high level thinking, other effects) and affective change (socialization, collaboration learning, faith), the study results may be said to raise important results for integration of technology. It may be beneficial to repeat this study conducted on class pre-service teachers on different teaching fields and university departments.

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# Furnushing New Generations with Productive ICT Skills to Make Them the Maker of Their Own Future

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## Abstract

Increasing awareness on children's using ICT tools interdisciplinary to solve the problems they observe is one of the priority issues in the pursuit of several countries. Today, because individuals want to use products by their own pleasure and wishes, "do it yourself" movement has started to become common and as a result of the facilities of technology, the culture of creation was born. This study aims to find out children's current views on production, to make implementations regarding 3D designs and to discover whether there is awareness in children's ideas regarding production after the 3D design and production activities. Exploratory case study, a qualitative method, was used to answer the questions regarding the use of Tinkercad program and children's examination of their 3D designs. A total of 22 children from the Child Council of Ankara Metropolitan Municipality participated in a one day 3D design and production activity with Tinkercad online design program presented by Autodesk. Several themes such as information technology use of children and their parents, children's 3D designs and their awareness levels were analyzed. Results show that even though children use information technologies for communication and fun, they are unaware of the productive aspects of ICT. Organizing activities allowing them to produce with computers and computerized machines help children to see the potential power of ICT.

***Keywords:*** public spaces and computing, authoring tools, pedagogical issues, elementary education

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# Yeni Nesillere Kendi Geleceklerini İnşa Etme Amacıyla Üretim Odaklı Bilişim Teknolojileri Becerilerinin Kazandırılması

## Öz

Bilişim teknolojileri araçlarını çocukların gözlemledikleri problemleri çözmek için disiplinlerarası kullanmaları yönünde farkındalık yaratmak çeşitli ülkeler için öncelikli konulardan birisidir. Günümüzde, bireyler ürünleri kendi istekleri doğrultusunda kullanmak istedikleri için, 'kendin yap' akımı yaygınlaşmaya başlamış ve teknolojinin sağladığı olanaklar sonucunda buluş kültürü doğmuştur. Bu çalışma üç boyutlu tasarımlara ilişkin uygulamalar yapmak ve çocukların üç boyutlu tasarım ve üretim aktivitelerinden sonra bu süreçlere ilişkin farkındalık kazanıp kazanmadıklarını görebilmek için onların bilişimle üretim konusundaki güncel görüşlerini ortaya çıkarmayı amaçlamaktadır. Araştırmada, Tinkercad programının kullanımı ve çocukların 3D tasarımlarının incelenmesine yönelik soruların yanıtlanması amacıyla nitel bir yöntem olan keşfedici durum çalışması kullanılmıştır. Çalışma, Ankara Büyükşehir Belediyesi Çocuk Konseyinden toplam 22 çocuğun, Autodesk firmasına ait Tinkercad 3 boyutlu tasarım ve üretim etkinliğine bir gün katılmasıyla gerçekleştirilmiştir. Çocukların ve ebeveynlerin bilişim teknolojileri kullanım durumları, çocukların 3 boyutlu tasarımları ve farkındalık düzeyleri gibi çeşitli temalar çalışma kapsamında analiz edilmiştir. Araştırma sonuçları, çocukların bilişim teknolojilerini iletişim ve eğlence amacıyla kullanmalarına rağmen, bilişim teknolojilerinin üretim yönünün bilincinde olmadıklarını göstermektedir. Çocuklara bilgisayarlarla ve bilgisayarlaşmış cihazlarla üretim yapabilme olanağı sağlayan etkinlikler hazırlamak, bilişim teknolojilerinin potansiyel gücünü görebilmeleri açısından yararlı olacaktır.

***Anahtar Sözcükler:*** kamusal alan ve bilişim, yazarlık araçları, eğitimsel konular, ilköğretim

## Introduction

The Harvard Professor Howard Gardner (2006) stated that from now on we need to equip our children with information and skills to be able to do things that "machines cannot", because it is estimated that 47% of the jobs of employment in USA existing today, is in the high risk category in next 20 years (Frey and Osborne, 2013). Similarly, in United Kingdom, about 35% of the current jobs are at high risk of computerization in next 20 years (BBC, 2015). In addition, Davidson (2012), a Professor on Duke University estimates "that 65% of children entering grade school this year (2011) will end up working in careers that haven't even been invented yet".On the other hand, scientists such as Bergson defines human beings as homo faber (maker) rather than as homo sapiens (1911). Bergson, in his famous study Creative Evolution (1911) states that history of human-being starts with its tool making abilities. The problem is that although human being is a human being as long as s/he can make, the era we are living in separates us from producing due to computerized machines, internet of things, big data, artificial intelligence, etc. So, today's educators face a new challenge to prepare new generations in order to make them maker of their own future.

Increasing awareness of children's using ICT tools interdisciplinary to solve problems they observe is one of the underlying issues in the pursuit of several countries. Human beings have turned into consumers more than ever thanks to information era and technology. Therefore, societies need to increase their productive potentials to survive in the global economic competition environment. If the Far East Asian countries that missed the Industrial Revolution are considered, it is seen that within the last 30 and 40 years they have closed the 100- year- gap between themselves and the developed countries like Europe and USA. This shows us the fact that technology and science is a significant tool for societies to advance.

Since this is an accepted reality, the societies desiring to prosper economically while consuming information rapidly have to be the producer of information by using technology and scientific developments. For this reason, the need for individuals designing and producing technologies which are essential for production process increased more than ever. It is also possible to observe the same effects of this cultural transformation in small business environments and educational institutions. In business environments, individuals who can produce new information, create and take initiative are demanded instead of employers who use stable information (Plemmons, 2014; Levy & Murnane, 2004). When the fact that education should develop in line with the need of a society is taken into consideration, it can be concluded that this change in the society and workplace has also affected the approaches in education. Together with a similar change in the education environment gaining skills such as questioning, interpreting and experiencing information and applying it to different areas and producing new things with the available information instead of memorizing the stable information and applying it to an area of which borders are clear have become some of the significant aims (Blikstein, 2013).

In the Strategic Framework for European Cooperation in Education and Training" notice published in May, 2009 by the European Union Council (2009) it was stated that in order to realize the "Improving the quality and efficiency of education and training" strategic target on a sustainable basis, learners' basic skills regarding mathematics, science and technology should be developed until 2020 (C 119/3). Also, in order to guarantee these "strategic objectives" defined in 2009, 6 new, primary areas regarding Education and Training 2020 (ET 2020) were introduces in the draft report published by the Council on September 1, 2015. (ET 2020 New Priorities, 2015). One of these areas is "Open and innovative education and training, including by fully embracing the digital era". Accordingly, together with increasing demand for digital skills and qualifications as a result of the digital evolution, it has become a requirement for education and training to satisfy the need (European Commission, 2015). The draft report is expected to be accepted by the council by 2016.

Education systems of developed countries try to create education environments in which students can become self-confident, productive and creative and have decision-making skills. Barack Obama, President of the USA, who emphasizes the necessity of science, technology, engineering and mathematics education and gives them highest priority with regarding their potential which is used in making significant and innovative contributions to the country's economy utters the expectations of the 21st century economics from the students in "Hour of Code" program in 2013 "Don't just buy e new video game, make one. Don't just download the latest app, help design it. Don't just play on your phone, program it. No one is born a computer scientist, but with a little hard work and some math and science anyone can become one." (Obama, November, 2009; March, 2014). Similarly, The European Union sent a letter to the member countries' Ministers of Education on July, 2014 and referred to the importance of adding coding lessons to the curricula of the possible earliest levels. The motive behind this was reported as the increasing competitive capacity of Europe with the USA and the Far East and it was also stated that unless this was realized, they would lose their competitive power within 20-25 years (European Commission, 2014). It can be realized that the expectations of the 21st century have been chancing and students are expected to keep up with these changes.

Similar with the global effort, there is a great effort in Turkey about ICT use in K12 level. MONE (Ministry of National Education) carries out the biggest project in the world in K12 level called "FATİH". In an educational system that have 17 million K12 students, 1 million android-based tablets were distributed to students, 370.000 classrooms are equipped with LCD smart boards and thousands of schools got fiber internet connection. In addition to these, for all courses in K12 level, digital educational contents are published via http://eba.gov.tr website. "FATİH" project is still on progress and efforts such as tablet computer distribution, internet connection and digital instructional content development continue all over the country (http://fatihprojesi.meb.gov.tr).

In order to put forth the characteristics of the 21st century, different ideas in theoretical frameworks published by different countries and international organizations were gathered under one single roof in a study conducted by Voogt and Roblin (2010). The 5 theoretical frameworks in the literature, namely Partnership for 21st century skills (P21), En Gauge, Assessment and Teaching of 21st Century Skills (ATCS), National Educational Technology Standards (NETS/ISTE), and National Assessment of Educational Progress (NAEP) were examined within this context. Also, international studies and reports by the EU, OECD and UNESCO regarding the need for 21st century skills and how these skills can be applied to education were analyzed. The common 21st century skills mentioned in all the reports are as follows: collaboration, communication, information and communication technologies (ICT) literacy, digital citizenship, creativity, critical thinking and problem solving. In his book "The Global Achievement Gap" Wagner (2008), claims that what we are living at the moment is a globalachievementgap as a result of the fact that the schools are behind this change while accelerating change in all fields. Educational experts believed that the increase of discrepancy between the expectations of the "New World" working conditions and what is taught to students in "Old World" schools is the basic reason of this deficiency. In order to be able to cope with the global success deficiency, the students have to be trained with a different understanding and gain vital skills that they will need in the 21st century. These skills are as follows:

- Critical thinking and problem solving
- Leadership with cooperation and influence
- Promptness and adaptation
- Taking initiatives and entrepreneurship
- Effective oral and written communication
- Access to and analyzing information
- Curiosity and imagination (Wagner, 2008, p.14).

Automation brought by the industrial revolution is slowly dispossess piecework jobs. Fossil fuels used in factories in the Industrial Era are elite energies because they are located in rare regions (Rifkin, 2011). In order to ensure the usability of these energies, continuous geopolitical management and investment are required. Moreover, in order for them to reach the end user from underground, a top-down inspection system and intense capital are required. These rationally structured, great and centered bureaucracies combined with mass production enabled with coal and steam power and ensured to conduct complex commercial relationships in today's factories. As a result of printed communication becoming close with coal and steam power, distances shortened and the time problem disappeared and economy has accelerated. A vertical-scale new economy emerged together with low process prices accompanying commercial flow speed (Rifkin, 2011, p. 154). Because of the expertise, equipment and cost, production is monopolized by big, centralized corporations. Today, as production has become more digitalized, this situation signals change concretely.

In the 21st century everything has digitalized, virtualized and automatized, and business processes have become ordinary by retrenching time and cost to a great

extent. Together with the democratization of new technological tools which makes a lot of people increasing access to them, the efficiency levels of countries, corporations and individuals using these tools will also start to increase significantly. In every field top-down businesses have already started to transform into more cooperative and horizontal structures.

Cooperative era will possibly end working on a salary basis just like the Industrial era ended slavery. The characteristics of the third Industrial Revolution will be that instead of workers working with machine, they will use high technology and program and observe smart technologies. All these situations bring forth the question how millions of people will be employed years later. The third Industrial Revolution stands as our last opportunity to create on-salary, traditional job opportunities. (Rifkin, 2012). For this, humanity should be prepared to step into the third Industrial Revolution composed of cooperation, renewable energy systems and fabrication means of production.

In order to gain these skills and most importantly to provide real learning, various learning approaches have been proposed. Project-based and constructivist learning approaches stand out in learning environments which can gain the 21st century skills (Blikstein, 2013). In the constructivist learning theory students construct information and skills via various experiences. According to this theory, which was emphasized by John Dewey in the 1920s and remained on the agenda in the 1990s, the student should be the active role taker instead of passive listener during the learning process. This approach emphasizes various acquisitions such as student taking responsibility and being productive during the learning phase (Taylor, Fraser & Fisher, 1997).

Constructivism does not aim to meet the concept productivity clearly and it points out the cognitive construction of information. Recently, “Constructionism” learning approach has been suggested upon physical production gaining importance (Papert, 1991). According to Papert, one of the pioneers of this view, during the learning process the student must create a concrete thing or an idea (Blikstein, 2013). In Constructionism, constructions are as important as the constructionism process which these constructions create by interacting with the concrete constructions in the real world. Therefore, in terms of the word structure “Constructionism” has been preferred to be used (Şimşek, 2004). According to Papert (1991) although constructivism focuses on the fact that information is constructed by the learner not by the teacher, constructionism focuses on the role of the objects and constructions in the real world that will support this process. Based on the idea of the student producing a physical or digital object (Vossoughi & Bevan, 2014), this approach might support to satisfy the need for production in the society and enable student to realize a more permanent learning (Papert & Harel, 1991). In a typical constructionist learning environment, a fixed curriculum is rarely seen. Students use technology for their projects and teachers support students in this environment (Blikstein, 2013).

Piaget's constructivist learning theory and Papert's constructionist theory have set ground for the maker movement in time and it has been a much controversial

issue (Martinez & Stager, 2013; Sheridan, Halverson, Litts, Brahms, Jacobs-Priebe & Owens, 2014). Maker movement is defined as producing rapid and small-scale first sample (Vossoughi & Bevan, 2014). Constructionist learning environmentsare confused with project-based learning. However, they are different in that in project-based learning environments teachers want to direct certain process in certain times and around certain topics but in maker environments, each student observe various process and use different tools (Barniskis, 2014). In these environments real tasks, trial and error, and experiencing in different environments and times are rather important in constructing information (Martinez and Stager, 2013). Maker movement includes people involving in the production process creatively and sharing their products and thus students become producers instead of consumers. According to Dougherty (2012), one of the pioneers of this movement, every human being is an inborn maker; it is a natural characteristic and people gain self-confidence when they satisfy this need. Dougherty (2012), advocates that the main difference in the maker movement is that people are active producers rather than passive consumers. People prefer to produce and share what they produce instead of being competitive. In education experiences and productivity have replaced memorization (Halverson & Sheridan, 2014).

Because the third Industrial Revolution has enabled dispersed entrepreneurship, top-down innovativeness while giving the chance of dominance over means of production to ordinary people, everybody has the ability of creating and designing a new product thanks to this technology. You do not have to invest in enormous facilities or employ a labor power to carry your idea into the production phase. The democratization in the digital means of production is getting ready to become the factory model of the third Industrial Revolution (Rifkin, 2012).

It is very important that education which is supposed to gain the 21st century skills should be designed in a way that enables students to find creative solutions to real world problems and to transfer their solutions to other individuals by cooperating. One of the education approaches that provide many opportunities to gain the 21st century skills is STEM disciplines. Students can develop 21st century skills such as adaptation, complex communication, social skills, problem solving, self-management and self-development and systematic thinking via STEM disciplines (NRC, 2010). Maker movement and constructionist learning method are considered very important in applying curricula using STEM approach (Martin, 2015; Schweikardt & Gross, 2006). STEM is a method that focuses on the idea that science, technology, engineering and math cannot be learnt separately and they can make sense in a trial and error environment (Resnick & Rosenbaum, 2013). With STEM approach students give meaning to abstract concepts such as friction and balance by using and applying their engineering, science and technology knowledge. (Blikstein, 2013). According to Papert; engineering, design, programming and production should be included in education and interact with each other (Blikstein, 2013). Accordingly, although the effort to teach the 21st century skills via STEM discipline has been considered as important in terms of societies' technological and scientific development within the last half century (Subotnik, Edmiston and

Rayhack, 2007), it is accepted to have deficiencies in some dimensions. Maker movement has the means of production with the capacity of meeting this deficiency.

STEM has been a recently-emphasized approach, and by adding art to this approach STEAM has stood out. Because digital technology is more easily accessible, art and science have been mentioned together (Kim & Park, 2012). Maker movement has provided a correct approach to implement this approach and gives the students an environment where they can be productive and active and where they can work in an interdisciplinary way. According to the researchers studying STEM, maker movement enables student to keep interested within the STEM curriculum. Briefly, maker movement has been an important step to implement the STEM approach (Morrison, 2006). For instance, while students design and produce furniture to use in their classrooms, they make use of geometry and math and this environment will implement maker approach within the STEM curriculum.

Within the last century, people have been directed to live a consumer life and maker movement is believed to be a vital step in order for us to be a productive society again (Vossoughi & Bevan, 2014). Papert believes that technology is the strongest and most liberating tool to increase students' productivity (Halverson & Sheridan, 2014). According to Papert, technology supports the culture of creation. With new technologies, designing, constructing and making have become easily accessible skills for each individual (Blikstein, 2013). Today, because individuals want to use products by their own pleasure and wishes, "do it yourself" movement has started to become common and as a result of the facilities of technology, the culture of creation was born (Anderson, 2010). People started to produce products to meet their daily needs and solve their problems in which color and model they want.

There are some significant studies about 3D modeling and its effect on students' spatial knowledge or their achievements. Concrete modeling is important in terms of developing students' spatial thinking skills and their achievement of geometry courses (Clements & McMillen, 1996). Similarly learning environments designed with concrete materials are more effective on students' achievement in geometry courses (Clements, 1999). Bulut and Köroğlu (2000) determined in their study that there is a significant relationship and positive correlation between spatial skills and problem solving. 3D design and production is also important that it gives the students the excitement of being productive, it is complimentary to STEM curriculum, gives easy access to course materials previously difficult to access and supports problem solving (Planchard, 2007). For example, students can examine the 3D form of molecules for Chemistry lesson and learn cells and organs by producing their 3D forms. Also, 3D design supports spatial intelligence, the intelligence type that can enable to draw 3D drawings by looking at objects and thinking. Students design by taking into consideration the relationship of the shape and its sizes with other objects and in this process there are views that assert that during this process student develop their spatial intelligence by using math and geometry skills (Planchard, 2007). Studies carried out with students in the process of 3D design and production show that these activities increase students' self-confidence, gain them a new way of thinking and attendance to classes (Peppler & Bender, 2013).

Researchers who discussed what and how students could produce and what the necessary skills were to produce a product suggested that this can only be possible by using technology and by being interdisciplinary (Roque, 2015). Here 3D design tools and printers are considered to be significant tools for maker movement to become common. 3D design and production activities are considered to be rather beneficial in terms of enabling students to concretize concepts and to learn visuals easily. However, awareness regarding this issue in our country has just started to be formed. Informatics Technology course, one of the important mediators of this awareness, is criticized. When the curriculum of this course is examined, it is criticized because the course content includes what students already know and it is not a solution to gain 21st century skills (Akpınar & Altun, 2014).

The aim of this study is to find out students' current views on production, to make implementations regarding 3D designs and to discover whether there is awareness in students' ideas regarding production after the activities. By doing so, students gain informatics and production concept and the skills that this concept includes. It is predicted that the inclusion of training and the tools used in the study in school curricula will contribute to students' gaining 21st century skills and informatics and production approach. In this context, the following questions are tried to be answered;

- How much the children participated in the study and their parents use information technologies in their daily life?
- At the end of the activity, what are the results of children's 3D design evaluations?
- What do children think about 3D design and production after the activity?

## Method

### Research Design

Exploratory case study, a qualitative method, was used to answer the questions regarding the use of Tinkercad program and children's examination of their 3D designs. Exploratory case study is used in pilot studies in which the effect of a case is tried to be determined in times when the integration of technology is used especially in educational researches (Berg, 2009). It was also stated that exploratory case studies were useful for pilot studies carried out before a more extensively planned and done quantitative studies in Social Sciences (Swanson & Holton, 2005). The independent variable of the study is 3D design activity and the dependent variable of the study is awareness regarding production with information technologies.

This study is pioneer one in terms of investigated distinct phenomena. There is no detailed preliminary researches for the age group being studied. That's why, most of other research methodologies might restict the acquisition of the study. Exploratory case study is crucial for studies like pilot studies and it is hard to identify strict variables before research. This study's most general research design specifies the independent variable as 3D design activity and the dependent variable as awareness regarding production with information technologies. However, besides

these variables, it is even more important to discover new variables that were not previously thought of. The studied case of this research is 22 voluntary children is experiencing 3d design activity as the first time and the study tries to share first impressions in such a natural environment.

## Participants

The research was carried out in Child Council of Ankara Metropolitan Municipality. The Child Council periodically carries out various educational, social, cultural, sportive and artistic activities for children living in Ankara province to express their problems and demands freely, to have a saying in the decisions made regarding their city and figure out solutions (http://cocukmeclisi.ankara.bel.tr). A total of 22 children, 8 boys and 14 girls, participated in the study. It can be said that this was both convenience and quota sampling. Because of the reason that research was conducted in Child Council, there were no chance to select participants. Children registered for the Council were announced to attend the activity. Also the number of participants were limited because of the capacity of the activity environment. The Child Council is composed of children from various schools and age groups; thus, the participants are heterogeneous. All the participants attend to public schools. Age and classroom distribution of the participants can be seen in Table 1, which shows that the children are aged between 9 and 13.

Table 1

*Age and Class Averages of the Participants*

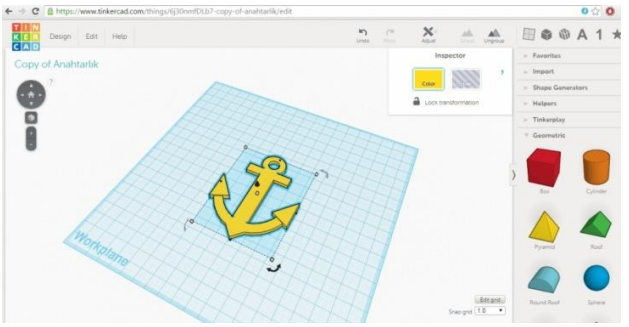
| Age | n | Class | n |
|---|---|---|---|
| **9** | 2 | **4** | 12 |
| **10** | 10 | **5** | 3 |
| **11** | 2 | **6** | 2 |
| **12** | 4 | **7** | 4 |
| **13** | 4 | **8** | 1 |

## Activity

The activity environment is composed of computers located around an administrator computer and an overhead projector administered by one of the researchers. In order to trigger their curiosity and draw their attention, children watched an attractive video of front leg prosthetics designed in 3D design environment and printed out from a 3D printer which was implanted to a dog without front legs. After the introduction and video activities the children started to use computers to make a 3D design. Children used computers one-to-one. During the activity children designed an anchor-shaped key holder together with the researcher's instructions. Children used Tinkercad, presented by Autodesk for online use as a design program (www.tinkercad.com). The key holder 3D design and the interface screen of Tinkercad is given in Figure 1.

Figure 1

*Design Screen Shot*




While one researcher was giving the instructions via the overhead projector, the other researchers were walking around and providing guidance whenever necessary. After the activity ended, the key holders designed by the children were printed out from 3D printer and given to them. The activity lasted for 6 hours in total. Study and interviews were conducted in the same place. Children use this place to use computers, play games and do free activities when they come to Child Council. So it was a natural research environment, not an artificial laboratory environment designed for this study. An image of the activity environment can be seen in Figure 2.

Figure 2

*Activity Environment*

**Data Collection and Data Analysis**

As the first data collection tool, information form was used to collect the demographic information and information technology ownership of children and their parents. There were questions about their gender, age, grade, which technologies they own and their parents own in this information form. Also there was an open ended question in the form, "what do you think first when you hear about 3D?" in order to determine whether they know something about 3D, 3D design or else.

The 3D products designed by the participants were evaluated via the second data collection tool; "Graded Product Evaluation Key" developed by the researchers. According to Kan (2007) a rubric can be defined as a scoring guideline that describes the characteristics of different levels of performance or criteria and judging a

performance through the performance of a task. Because the rubric is used for product evaluation, in the horizontal column are the criteria that the product should have and on the vertical column are the levels of the scale, namely bad, average and good. For each cell where product criterion and level axis meet, separate definitions were made and each criterion was graded as bad 1, average 2 and good 3. The highest score one can get from the rubric is 24 and the lowest score is 8. Since the products within the scope of this research have to be evaluated by more than one criterion, an analytical rubric was used. Analytic rubric requires separate scoring of separate criteria of the dimensions (components) (Mertler, 2001). The rubric prepared accordingly has 4 main and sub-main dimensions: namely Dimensions (measure, ratio), Visuality (Geometric shape (form), edge and corners, perspective), Functionality and Shape Transformation. After the criteria regarding product evaluation were determined, definitions were made for each level and expert views were obtained. In line with the feedback obtained from the experts, necessary corrections were made and it was tested on a student group different than the target group and finalized.

Semi-structured interviews were conducted with 11 students. Questions were prepared by researchers and sent two experts for review. After the revisions, two main and two sub-questions were determined and asked to the children and the interviews were recorded with their permission. One interview with a child took about 5-10 minutes. Two researchers interviewed with children separately and it took about 1 hour in total. Questions are written below;

- Do you like this activity? Why?
- Have your ideas about what you can do related to information technologies changed after the activity? What else can you do?

Data analysis in qualitative studies is a “messy” process (Hatch, 2002). For this reason, the data collected from different data collection tools were analyzed clearly and carefully. Demographic information about children and children’s and parents’ information technology ownership were analyzed with tables. Answers for the open ended question were analyzed witn content analysis and main themes were created according to the responses. The answers obtained in the interviews were recorded and analyzed with content analysis method. 3D designs of children were also analyzed with the rubric. Quantitative results of 3D designs and qualitative data of interviews are used to prove each other for data saturation and the trustworthiness of the study.

Participants as data resources of the research have to be clearly defined in qualitative studies (Yıldırım & Şimşek, 2006). In current study, age ranges of participants, technologies they use and their grade levels were defined in detail in order to improve the reliability. A safe interview environment was provided to children to make them feel comfortable and data were collected in the same environment in order to ensure consistency. In addition to this, only volunteer children participated to the study and interviews. Validity of the study was improved with expert views. 3 subject area experts helped to determine the mutual themes from the coded data.

Content analysis method was employed to analyze the children views. Themes were determined with an induction approach (Yin, 2011). All interview records analyzed in detail and coding for content analysis were conducted with the relations of the whole data. The obtained categories and themes were clarified with the support of direct quotations from the interviews.

## Findings and Discussion

### Use of Information Technologies by Children and Their Parents

Table 2 shows the technologies children possess. When the Table is examined, it is seen that use of technology is common in children and that 10 of the 22 children have all three of computer, tablet and smart phone. Only one child stated not to have any of these technologies. In terms of Internet use 4 children stated to have connection via smart phone/tablet, 8 children stated to have connection at home and 7 children stated to have both. 3 children stated not to have Internet connection.

Table 2

*Technologies Children Possess*

| **Technologies Possessed** | **n** |
|---|---|
| Computer (Desktop/Laptop) | 5 |
| Tablet | 1 |
| Smart Phone | 1 |
| Computer + Smart Phone | 3 |
| Tablet + Smart Phone | 1 |
| Computer + Tablet + Smart Phone | 10 |
| 3DPrinter | 0 |
| None | 1 |

Parents of the children have at least either computer (desktop/laptop), smart phone, or tablet and it is seen that most of them have more than one of these. Only one of the parents did not possess any of these technologies. It was also found that use of information technologies is also common among the parents. The information regarding the children's purpose of computer and internet use can be seen in Table 3.

Table 3

*Purposes of the Computer and Internet Use*

| **Purpose of Use** | **n** | **Purpose of Use** | **n** |
|---|---|---|---|
| Education (course videos, educationalsoftware, doing homework, following the lessons) | 22 | Office programs (writing, creating a table etc.) | 10 |
| Social Media (Facebook, Twitter etc.) | 20 | Information sharing on forum websites | 9 |
| Surfing, reading newspaper, watching videos, playing games) | 19 | Designing web sites, coding, creating animations | 7 |
| E-mailing, communication, chatting | 17 | Interactive processes (banking, shoppingetc.) | 1 |
| Visual design, drawing (Photoshop etc) | 11 | | |

Table 3 shows for what purposes children use the Internet and computer. All of the children stated to use information technologies for educational purposes. Again, most of them stated to spend time on social media. Some of the children have ideas about visual design, drawing programs, web design and programming. All this data show that children use technology prevalently and are aware of 3D design and production activity.

**Evaluation of Children's 3D design products**

Product evaluation was scored using the 3D design graded product evaluation key. The highest score one can get from the score is 24. 14 of 22 children were evaluated regarding design products. 3D design products were evaluated by 3 different experts (E1, E2, E3) and with their evaluations, average scores are given in Table 4.

Table 4

*Children's 3D Design Scores*

| | User | Score (E1) | Score (E2) | Score (E3) | Final Score (Average) |
|---|---|---|---|---|---|
| **1** | User01 | 22 | 20 | 21 | 21 |
| **2** | User02 | 23 | 20 | 23 | 22 |
| **3** | User03 | 22 | 19 | 22 | 21 |
| **4** | User04 | 17 | 17 | 18 | 17,33 |
| **5** | User05 | 17 | 16 | 18 | 17 |
| **6** | User06 | 21 | 20 | 20 | 20,33 |
| **7** | User07 | 21 | 21 | 22 | 21,33 |
| **8** | User08 | 22 | 20 | 22 | 21,33 |
| **9** | User09 | 21 | 20 | 20 | 20,33 |
| **10** | User10 | 22 | 19 | 21 | 20,66 |
| **11** | User11 | 18 | 20 | 19 | 19 |
| **12** | User12 | 19 | 20 | 19 | 19,33 |
| **13** | User13 | 21 | 21 | 20 | 20,66 |
| **14** | User14 | 21 | 20 | 20 | 20,33 |
| | | | | **Average** | **20,12** |

4 children scored a little lower than 20 and 10 children scored above 20. The average score is 20,12. These results show that the children completed their 3D designs at the expected level at the end of the one-day activity.

**Children's views on 3D design and production**

**Children's views on 3D before the activity**

This was the open-ended question in information form. The answers were analyzed via content analysis method. Content analysis aims to reach concepts and terms that will explain the collected data (Yildirim &Simsek, 2006). In this study a pre-classification was not done during the content analysis and themes were identified by coding the concepts and the answers were classified under 5 separate themes: 3D movies and glasses, reality, game and virtual, all sides, object-thing. The answers to the mentioned themes are presented in Table 5.

*Table 5*

*Findings the Views of Children on 3D*

| Theme | Answers |
|---|---|
| **3D movie** | - Movie glasses |
| | - Glasses, film |
| | - Cinema 4d |
| | - Glasses |
| **Reality** | - Real form of a drawing |
| | - The same printout with the 3D shape |
| | - Things I did becoming real |
| | - Everything seeming more lively |
| | - Seeing animated or unanimated things as if they are real on TV or the Internet |
| | - Reality, design |
| | - Very image of the real |
| | - Real, realistic objects |
| **Game and Virtual** | - Virtual real and game |
| | - Virtual real, game |
| **All perspectives** | - Seeing from every side |
| | - Filled objects with width, length, height, |
| | - 3 axis |
| | - Shapes that look the same size from every perspective |
| **Object-thing** | - Concrete objects |
| | - A printout pattern coming out concretely like an object or thing |
| | - 3D thing |
| | - Things looking strange |

The answers show that children are familiar with the concept 3D. However, there are different themes in the minds of some children. While the children who knew 3D in terms of the visuals mentioned 3D movie and glasses, children interested in games spoke of virtual reality and games. The theme reality includes the answers of children who consider 3D as a concept that reflects reality as is. The objects and things were also referred to. One of the striking themes is "All perspectives". It is possible to say that the answers such as 3axes, width, filled objects with width, length, height and seeing from all perspectives create a theme more similar to the real meaning of 3D concept in the minds of the children.

**Children's views on 3D design and production**

The first question in interview was related to whether they liked the activity or not. All the children stated that they liked designing and producing a key holder activity. Because the interviews were carried out after the key holders were printed out, children mentioned their excitement.

The interviews were semi-structured and thus children were asked “Why did you like this activity?” 4 separate themes were identified after coding the answers: making concrete, production, ability and excitement. The answers to the mentioned themes are presented in Table 6.

Table 6

*The Views of Children on Why They Liked the Activity*

| Theme | Answers |
|---|---|
| **Making concrete** | - Designs are printed out as 3D<br>- Taking the design into hands<br>- See and touch what was designed<br>- Abstract things being concrete |
| **Production** | - This is real production<br>- I can model 3D characters<br>- Design and also produce it |
| **Ability** | - I can do anything with 3D<br>- I can make colorful designs and productions |
| **Excitement** | - Interested and excited in game and 3D design<br>- Makes me very excited |

It can be said that the transition from design to production and abstract concept concretizing are effective factors for children to like the activity. For example different children stated that *"I can see and touch what I have designed"* and *"I can model whatever I want with 3D design"*. Children already familiar with computer felt that what they did was more meaningful when they used computer as a means of production. Also, children experienced that they could do 3D designs. In addition, answers and the fourth theme shows that 3D design and production is an exciting environment for children.

The second question was; "Have your ideas about what you can do related to information technologies changed after the activity? What else can you do?" 4 separate themes were identified after coding the answers: toys, organ, sports product and accessorizes. The answers to the mentioned themes are presented in Table 7:

Table 7

*The Views of Children on What Else They Can Do*

| Theme | Answers |
|---|---|
| **Toys** | - Ship<br>- Submarine<br>- Mobile phone<br>- Small house |
| **Organ** | - Arms<br>- Hands |
| **Sports Product** | - Running man model<br>- Balls |
| **Accessorize** | - Mobile phone case<br>- Home tools, objects<br>- Trinket |

Children gave remarkable responses about their ideas such as "*My point of view has changed.*" or "*I realized that I could make more than what we did here*." and stated what else they can make from now on. Themes indicate that children imagine producing things both for fun or usable in daily life. Statements such as; "*Arms can be developed for people with disability.*" or "*I can make hands for people who do not*

*have hands.*" indicate that children aware of the use of technology for solving the serious problems. Even participating to a one-day activity, children stated these ideas regarding production with 3D design. These statements indicate the changes in the children's minds after a one-day activity and realizing that they can design and produce.

## Conclusion

This study, which aims to gain awareness of children regarding production with information technologies via 3D design and production activity, lasted for one day but has some positive effects. The first research question shows that children and their parents do not have any difficulty accessing to technological devices and the Internet. Also, children stated to use information technologies both for education, fun and other activities. Children already familiar with information technology did not have any difficulty in participating in 3D design and production activity.

Children gained achievements for production with information technologies. The awareness of producing with information technologies for children in these young ages is an important step for their future. The current study results establishes a relationship with the universally accepted approaches such as "digital production" and "maker movement" (Blikstein, 2013; Blikstein & Krannich, 2013; Buhler, Kane & Hurst, 2014). Today's children will be engineers in the future so it can be said that production with information technologies is an important achievement and key element for children.

Because this was just a one-day study, the children watch the introduction video and started to work on their computers by following the instructions. Observations during the study showed that children did not have difficulty in design. According to the second research question, when the findings regarding children's completing the activities are examined, it is seen that they completed their designs expectedly. The fact that children who did not do any previous activities regarding 3D design did their tasks on an expected level shows that 3D design is easy to use for children. As Bulut and Köroğlu (2000) states, this study showed that there is a relationship between 3D design, spatial knowledge and problem solving. Although this was a one-day study, students solved problems in terms of designing 3D key-holders with given instructions.

The last research question shows that all students had ideas about 3D. However, none of the children had participated in a 3D design activity previously. They did not speak of design and production when they were asked what came to their mind about 3D. Thus, the findings of the interviews after the study are important. All the children were excited about and interested in the 3D design and 3D printer production process. The sentences "I can do this, I can get involved in the production process" show that children gained a certain level of awareness of informatics and production. These explanations are similar with the report of an international institution in educational technology, NMC (New Media Consortium). This report was published in 2014 and it emphasized that materials and objects would be rediscovered by teachers and students with 3D design and production. Moreover, 3D design and production technology will provide students some opportunities in

education such to touch their own concrete models and share them with others (Johnson, Adams Becker, Cummins & Estrada, 2014).

Recent studies show that 3D modeling is important for spatial knowledge, problem solving and developing new thinking skills (Clements & McMillen, 1996; Clements, 1999; Planchard, 2007; Peppler & Bendler, 2013; Roque, 2015). This study is important because it supports students from two other perspectives. One of them is 3D modeling and the other one is producing them with 3D printers. In this study, 3D modeling is not limited only with virtual environment because of the reason that students printed their designs via 3D printer. Dougherty (2012) asserts that every human being is an inborn maker and people gain self-confidence when they satisfy this need. The child involved in the design and production process in person might have the chance to increase self-confidence and self-respect and develop thinking skills. The studies stated that 3D design and production activities gained children a new way of thinking (Peppler & Bendler, 2013).

There are many kinds of objects are produced with 3D printer in different areas. In future, lots of different 3D model samples are expected to be produced. With the importance of STEM in recent years, 3D printers form an exciting experience for STEM approach. 3D printing technology is presented to the students of technology education as an important motivation tool (Lacey, 2010). This study verifies these statements in terms of gaining students awareness and vision for future. This study have some limitations that this was a one-day activity and convenience sampling was used because of the activity environment (Child Council). In order to measure the variables self-confidence, self-respect and thinking skills, long-term studies of this kind are suggested to be implemented in education environment. Further longitudinal studies will enable children to get involved in design and production process, and present findings which can reveal the changes regarding children's self-confidence, self-respect and thinking skills.

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# Mediator Role of Metacognitive Awareness in the Relationship between Educational Stress and School Burnout among Adolescents

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## Abstract

Metacognition is accepted as a process that affect learning of students directly and is composed of metacognitive skills such as planning of learning, use, regulation and evaluation of learning strategies as well as information on the individual, duty and strategy variables. Educational stress is defined as reactions given by all individuals in the school to the problems they encounter as they carry out their duties and it has an impact on their success both at and outside of school. School burnout is handled in the dimensions of exhaustion against school demands, scornful attitude towards school and the inadequacy felt as a student. The aim of this study is to investigate the relationship between metacognition, educational stress and school burnout and the mediator role of metacognitive awareness in the relationship between educational stress and school burnout. The sample of 303 students was selected from 7th, and 8th grade students who were at 13, 14 and 15 years old at middle schools in Ağrı, Turkey. The Junior Metacognitive Awareness Inventory, the Educational Stress Scale and the School Burnout Scale were used for data collection. Pearson Product Moment Correlation Analysis was applied in order to determine relationship between the variables and simple, multiple/stepwise regression analysis were used to determine predictor roles of metacognition and educational stress on the school burnout. In correlation analysis, there are statistical significant correlations between metacognition, educational stress and school burnout. In stepwise regression analysis, metacognition is a mediator in relationship between educational stress and school burnout, and educational stress was strongest predictor of school burnout.

***Keywords:*** metacognition, educational stress, school burnout, adolescents

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# Ergenlerde Eğitim Stresi ve Okul Tükenmişliği Arasındaki İlişkide Üstbilişsel Farkındalığın Aracı Rolü

## Öz

Bireyin görev ve stratejiler hakkındaki bilgilere ek olarak öğrenmeyi planlama, kullanma, düzenleme ve öğrenme stratejilerini değerlendirme gibi üstbiliş becerilerinden oluşan metabiliş, öğrencilerin öğrenmelerini doğrudan etkileyen bir süreç olarak kabul edilir. Eğitim stresi öğrencilerin okulda ya da okul dışındaki başarısını etkileyen, okul ile ilgili görevleri yerine getirmek için karşılaştıkları problemlere verilen bir reaksiyondur. Okul tükenmişliği ise bir öğrenci olarak yetersiz hissetme, okula karşı soğuma ve okul gerekliliklerine karşı tükenmeye dayanan bir kavramdır. Bu çalışmanın amacı eğitim stresi, okul tükenmişliği ve üstbiliş arasındaki ilişkiyi belirlemek ve eğitim stresi ile okul tükenmişliği arasındaki ilişkide üstbilişsel farkındalığın aracı rolünü incelemektir. Çalışmanın örneklemi, Ağrı ilinde ortaokula devam eden 7. ve 8. sınıflardan seçilmiş 303 öğrenciden oluşmaktadır. Veri toplamak amacıyla "Ortaokul Üstbilişsel Farkındalık Envanteri" ile "Eğitim Stresi ve Okul Tükenmişliği Ölçeği" kullanılmıştır. Değişkenler arası ilişkileri saptamak için Pearson Momenler Çarpımı Korelasyon analizi ve okul tükenmişiği üzerinde üstbiliş ve eğitim stresinin yordama gücünü tespit etmek için basit ve Çoklu/Aşamalı Regresyon analizi kullanılmıştır. Korelasyon analizi sonucuna göre; üstbiliş, eğitim stresi ve okul tükenmişliği arasında istatistiksel olarak önemli ilişkilerin olduğu, aşamalı regresyon analizi sonucuna göre ise; üstbilişsel farkındalığın, eğitim stresi ve okul tükenmişliği arasında aracı role sahip olduğu ve eğitim stresinin okul tükenmişliğinin güçlü bir yordayıcısı olduğu tespit edilmiştir.

***Anahtar Sözcükler:*** üstbiliş, eğitim stresi, okul tükenmişliği, ergenler

## Introduction

In this correlational research, I start by elucidating the notions of metacognition, educational stress and school burnout, and continue with the presentation of the assumptions of this research in relation to the study aim. Next, I exhibit the methods of the study followed by the findings. In the final part, I debate the research findings in association with the related literature.

## Metacognition

In today's world, which hosts very rapid technological advancements and where a competitive mentality in obtaining information is popular, the significance of metacognitive skills in terms of education increases as new thoughts are put forward (Martinez, 2006). The concept of metacognition, which is used to mean "*thinking about thinking*" (Metcalfe & Shimamura, 1994), is defined as students being informed about cognitive processes, being aware of, managing and controlling the situation, which are necessary for successful learning (Livingstone, 1997).

According to Flavel (1979), metacognition has an important role on some variables such as verbal communication, reading and comprehension, language acquisition, internal control and self-regulation. We can assert that students figure out their teachers by using cognitive and metacognitive strategies in terms of learning. This situation, which can be called learning through self-regulation, appears as learning that enables students to take part in their learning actively by some methods (Schunk, 2008; Zimmerman, 1995). According to Niemi (2009), two main points were emphasized in studies conducted on metacognition. First one is knowledge of people about cognitive processes while the other one is metacognitive skills that enable controlling these processes. Learning through metacognitive skills should be handled not only with cognitive processes but also with social and emotional processes (Martinez, 2006). The reason is that will and willingness possessed at the point of individual differences demonstrate the relation of metacognitive skills not only with cognitive processes but also with social and emotional processes (Eisenberg, 2010). Arslan (2014) pointed out there is a relationship between self-regulation and metacognition. According to his findings, a strong relation specifically, individuals with high self-regulation levels use metacognition skills and processes at high level.

Metacognition is accepted as a process that affect learning of students directly and is composed of metacognitive skills such as planning of learning, use, regulation and evaluation of learning strategies as well as information on the individual, duty and strategy variables (Öz, 2005). Metacognitive skills contribute to students being aware of the learning processes and ensuring effectiveness by regulating these processes (Livingstone, 1997).

## Educational Stress

According to Volpe (2000), existence of a certain level of stress in the organism was found necessary for a healthy life. Stress is defined as a state of tension that results from threat and pushing physical and mental boundaries of an organism (Cohen, Kessler, & Gordon, 1995; Lazarus & Folkman, 1984). These states of tension emerge in every environment where the individual is present (Lazarus & Folkman, 1984). One of the primary institutions where an individual spends most of his/her time is schools, where he/she continues his/her education life. While he/she endeavours to acquire the qualities that are crucial for him/herself and the society, the individual can be affected positively or negatively by all elements which he/she interacts with such as administrators, teachers, students, physical environments, etc. and can be stressed. While this stress is called academic stress for young adults (Kohn & Frazer, 1986), it is called educational stress (Sun, Dunne, Hou, & Xu, 2011) or school stress (Piekarska, 2000) for children and teenagers.

When studies conducted are examined, the situations which cause the greatest amount of stress in children and teenagers are family pressure (O'Connor & Spagnola, 2009) and homework given for academic success in educational environment (Garcia-Moya, Rivera & Moreno, 2013). It was stated by students that the fact that homework given by teachers take all of students' time prevent them from dealing with more important activities and cause students to develop negative attitude towards lessons and school (Moksnes, Byrne, Mazanov & Espnes, 2010).

Regarding stress and teachers or relation to teachers, it was shown that secondary school teachers encountered a high stress factor in the areas of student discipline, guidance and managing student behaviours compared to primary school students (Chan et al., 2010). The stressful situations encountered by teachers in relation to education are also reflected to students putting them under pressure.

School stress is defined as reactions given by all individuals in the school to the problems they encounter as they carry out their duties and it has an impact on their success both at and outside of school. School stress comprises of mental and physical stimulants that affect students' academic performance, efficiency and school targets positively and negatively (Naidoo et al, 2013).

Both the competition among students in the learning environment and their failure to communicate with their teachers can be listed as the reasons of the educational stress suffered by students (Nandamuri, 2013). In the research conducted in Eastern Europe about school stress, it was found that the factors that lead to school stress in children were caused by ill-intentioned and negligent attitudes and behaviours of teachers (Piekarska, 2000).

## School Burnout

Burnout syndrome is defined as follows by Maslach and Jackson (1981, p.99).: *Ending of emotional sources of employees and their lack of psychological power to meet the demands because of the emotional exhaustion arising from over demanding expectations encountered among working people*. Burnout is not only a concept that can be confined to occupational area, but it is also a concept defined as chronic stress. Burnout, which is described as chronic stress and has such components as emotional exhaustion, scornfulness and inadequacy, can arise from occupational or non-occupational difficulties (Bianchi et al., 2014). From educational perspective, the burnout occurs when both teachers and students cannot find the power to achieve the responsibilities incumbent on them and this can be called school burnout (Ilbay, 2016; Sarıçam, 2015a).

School burnout is handled in the dimensions of exhaustion against school demands, scornful attitude towards school and the inadequacy felt as a student (Salmela-Aro, 2009; Salmela-Aro et al., 2014). Schaufeli et al. (2002) dealt with burnout in students in 3 dimensions: a) emotional burnout/exhaustion arising from school requirements (for example tiredness after returning from school and the lack of willingness to do anything) b) cynical attitudes towards school duties (for example, thinking that the school does not improve him/her and therefore not wanting to attend school); c) as a student, feeling inadequate (thinking that he/she will fail the exams or will not be able to do the homework).

Aypay and Eryılmaz (2011) argued that high school students have school burnout because of their families' negative attitudes, and therefore their subjective well-being levels decrease. The academic success required by the family and the school from students cause the perception that students should always be studying and any behaviour that is not consistent with studying results in the students to be blamed with being lazy. It was determined that this type of behaviour leads to many significant changes in terms of loss of interest to school and the student thinking that the school is boring, causing school burnout (Aypay, 2012).

According to Elkind (1987), if students are tranquil and silent when they come back from school, it can be assumed that these types of problems have occurred. One of the most important problems in students'burnout is the inappropriate methods used by teachers. The reason is that methods used on the children, especially the ones in preschool, are methods that enable learning in the natural process, where they can say that "they did it" or "they managed" to solve problematic situations. When methods *used for 7-year old children are used for 4-year old children*, this causes a great amount of stress and school burnout.

## Present Study

Due to educational requirements, hard work is required at each stage of the education system, students are faced with tension, especially in the educational facilities. It is required for students to be informed of the methods to deal with

stressful situations that have a negative effect in terms of academic success and for them to gain experience on this field (Scott, 2011).

In a study conducted by Sun et al. (2011) in China, it was *presented* that educational stress has many factors and the importance of the support provided by consultants for the mental and behavioural well being of the students was emphasized. Also, the stressful situations experienced by students isolate them from school, in some cases causing depression (Moksnes et al., 2016), and in connection with this, an increase is observed in suicidal tendencies (Ang & Huan, 2006). Thus, the stress factors related to education should be explaned and implement programs that may provide a solution in relation with the subject. It is considered that the key term to be used in the programs created in order to prevent both school burnout and educational stress could be metacognition, because it has a structure that improves academic success by increasing the level of the learning performance (Van der Stel & Veenman, 2008).

Sarıçam (2015b) suggested that occasionally metacognition is perceived as a negative concept because of its negative consequences such as perceived stress and math anxiety (Kacar and Sarıçam, 2015b), while mostly it may be an positive structure for ensuring academic achievement (Coutinho, 2007; Young & Fry, 2008) and regulating learning process (Lai, 2011; Schneider, 2008; Veenman, Van Hout-Wolters, & Afflerbach, 2006). In other words, Sarıçam (2015b) emphasized that negative metacognitions cause negative components such as stress and unhappiness. Therefore, metacognitive awareness (in the context of the present study, it was accepted as a positive structure) may be associated with negative educational outputs such as educational stress and school burnout.

Determining the impact of metacognition on educational stress and school burnout would contribute to the literature significantly, as it will be a pioneer for the programs to be created. The main purpose of this correlational study is to examine the relationships between metacognition, educational stress and school burnout. Another pupose of the studty is to explain the mediator role of metacognition in the link between educational stress and school burnout. The following assumptions will be investigated for these purposes:

$A_1$: Metacognition is negatively associated with educational stress and school burnout.

$A_2$: Metacognition is negative predictor for educational stress.

$A_3$: Not only metacognition but also educational stress predict school burnout.

## Method

### Participants

The sample of 303 students was selected randomly from $7^{th}$, and $8^{th}$ grade students who were at 13, 14 and 15 years old at middle schools in Ağrı, Turkey. 145

(47,85%) of participants are male while 158 (52,16%) of them are females. Students' ages range between 13 and 15 and the average age is 14.32.

## Instruments

### Junior Metacognitive Awareness Inventory Version B (jr mai)

This scale was developed by Sperling et al. (2002). Students in 6th, 7th, 8th and 9th grade was assessed via two version of Metacognitive Awareness Inventory for students'metacognition levels: Knowledge of cognition and regulation of cognition. Jr. MAI is a self-report measure which includes 18 items and it is a 5-point Likert-scale which ranges from 1 ("never") to 5 ("always"). The possible scores of this scale ranged from 18 to 90. Jr. MAI was adapted to Turkish culture by Karakelle and Saraç (2007). In this study the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .86 and it was observed a significant result on Bartlett's test of Sphericity ($\chi^2$= 1986.87, p<.001). The amount of total variance explained was % 43.1% and the factor loadings ranged from .36 to .63. Cronbach's alpha internal consistency coefficient was found as .80 for scale. Test-retest reliability coefficient was .72. Corrected item-total correlations ranged from .38 to .60. Then, Aydın and Abuz (2010) made a validation study of Jr. MAI. The goodness of fit index values of the model were ($\chi^2$ = 285.71, df=99, p = 0.000); RMSEA =.05, CFI = .91, GFI = .94, AGFI = .92, and RMR = .05. For the current research, the coefficient Cronbach's alpha was .76.

### Educational Stress Scale (ESS)

Sun, Dunne, Hou, and Xu (2011) developed this scale and Celik, Akin and Saricam (2014) adapted to Turkish. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .81 and a significant result on Bartlett's test of Sphericity ($\chi^2$ = 3488.103, p<.001, df=105). Factor loadings ranged from .41 to .91. Results of confirmatory factor analyses demonstrated that 16 items yielded five factor as original form and that the five-dimensional model was well fit ($\chi^2$= 123.49, sd= 88 ($\chi^2$/df=1.40), RMSEA= .03, NFI= .97, CFI= .99, IFI= .99, RFI= .96, GFI= .95, SRMR= .041). Cronbach's alpha internal consistency coefficient was found as .86 for whole scale, .87 for sub-dimension of pressure from study, .93 for sub-dimension of workload, .90 for sub-dimension of worry about grades, .90 for sub-dimension of self-expectation, .91 for sub-dimension of despondency. Test-retest reliability coefficient was .67 for whole scale. Corrected item-total correlations ranged from .40 to .57.

### School Burnout Inventory (SBI)

This scale developed by Salmela-Aro, Kiuru, Leskinen, and Nurmi (2009), SBI was translated and adapted to Turkish by Akin, Sarıçam et al. (2013). The response format is a 6-point scale (1 = strongly disagree, 6 = strongly agree). Results of confirmatory factor analyses demonstrated that 9 items yielded three factors as

original form and that the three-dimensional model was well fit ($\chi^2$=45.28, df=21, RMSEA=.061, NFI=.95, NNFI=.95, CFI=.97, IFI=.97, GFI=.97, SRMR=.038). But second study showed that 9 items yielded one factors and the one-dimensional model was well fit ($\chi^2$= 68.78, df=25, p<0.001, RMSEA= .075, NFI= .96, NNFI= .97, CFI= .98, IFI= .98, RFI= .95, GFI= .95, AGFI= .92, and SRMR=.044). Factor loadings ranged from .41 to .83. Cronbach's alpha internal consistency coefficient was found as .85 for overall scale, .73 for exhaustion at schoolwork sub-scale, .69 for cynicism toward the meaning of school subscale, .60 for sense of inadequacy at school sub-scale. Test-retest reliability coefficient was as .75 for whole scale. Corrected item-total correlations ranged from .35 to .64.

## Procedure

The instruments were administered in the classroom by the researcher. The participants completed the instruments during the students' class hour. Both verbal and written standard instructions were given to the students. Specifically, students were asked to be honest when responding to the instrument items and informed about the confidentiality of the collected data. The whole administration of the instruments took approximately 25 minutes in each classroom. Collected data was transferred *typed to* computer using software package program, Pearson Product Moment Correlation Analysis was applied in order to determine relationship between the variables and multiple regression analysis was used to determine predictor roles of metacognition and educational stress on the school burnout.

# Results

## Correlations between Metacognition, Educational Stress and School Burnout

Table 1

*Descriptive Statistics, Cronbach's Alpha Coefficients, and Intercorrelations of the Variables*

| Variables | 1 | 2 | 3 |
|---|---|---|---|
| 1. Metacognition | 1 | | |
| 2. Educational stress | -.57** | 1 | |
| 3. School burnout | -.64** | .44** | 1 |
| Mean | 63.08 | 45.02 | 28.80 |
| SD | 15.73 | 13.04 | .9.74 |
| Alpha | .76 | .74 | 87 |

** Correlation is significant at the .01 level (2-tailed).

Table 1 shows that there are significant correlations between metacognition, educational stress and school burnout. Although metacognition is related negatively (*r*=-.64) to school burnout, educational stress is related positively (*r*=.44) to school burnout. Moreover, metacognition (*r*=-.57) was found negatively associated with educational stress.

## Regression Analysis

For the second hypothesis, simple regression analysis was carried in which the dependent variable was educational stress and the independent variable was metacognition. This analysis is necessary for following mediation analysis procedure. According to finding, metacognition and educational stress (dependent variable) were negatively related (β= 0.57, t= 11.97, p < .001). Metacognition explained 32% total variance of educational stress. The results are shown in Table 2.

Table 2

*The Regression Results of the Relationship between Metacognition and Educational Stress*

| **Variables** | **Unstandardized Coefficients** | | **Standardized Coefficents** | | | | |
|---|---|---|---|---|---|---|---|
| | **B** | **$SE_B$** | **β** | **t** | **R** | **$R^2$** | **F** |
| Metacognition | -.47 | .039 | -.57 | -11.97* | -.57 | .32 | 143.32* |

Dv: Educational stress *p<.001

For the last hypothesis, multiple regression analysis was applied to assess which variables were the best predictors of school burnout. However, for multiple regression analysis, it is necessary to check some assumptions so as to rely on the estimation of the significance that is concluded by the study. In order to ensure the trustworthiness of the results the assumptions of normality, independence of errors, and multicollinearity were checked.

Firstly, the normal distribution of the variables indicate that the relationships are not distorted; thus by the skewness and kurtosis values the assumption of normality was checked. It was seen that among all variables the highest and the lowest skewness values were -.01, -.22, and -.24; besides the highest and the lowest kurtosis values were -.73, .04 and -.19, respectively. Thereby, as it is suggested by Tabachnick and Fidell (2001) it can be concluded that the normality assumption is not violated since all the values are close to zero (-3.00 < p < +3.00).

Secondly, Tabachnick and Fidell (2001) suggests that when the error terms are independent, the value that is obtained from Durbin-Watson test is expected to be close to 2. The results of this test for the present analysis was 1.98, indicating that the assumption of independence of errors was also not violated.

Finally, multicollinearity problem may occur in the study when any two variables in the model measure the same relationship or the same quantity. In other words, it indicates high correlation between variables. Hair, Black, Babin, Anderson, and Tatham (2006) declared that the value of Variance Inflation Factor (VIF) needs to be smaller than 10 and tolerance value greater than .10. In the present study, the highest value for Variance Inflation Factor was 1.48 and the lowest tolerance .67.

These values indicate that no multicollinearity is detected among the independent variables of present study.

Table 3 shows the results of multiple regression analysis where the independent variables were metacognition and educational stress scores, and the dependent variable was school burnout. In the first step, only educational stress was entered the equation, accounting for 40% of the variance in predicting school burnout. In second study, only metacognition was entered the equation, it explained 20% total variance of school burnout. In third study, both metacognition and educational stress were entered the equation; they explained 41% total variance of school burnout. That is to say, metacognition has 1% effect on total variance of school burnot in last equation. The standardized beta coefficients indicated the relative influence of the variables in the last model with metacognition and educational stress statistically significantly related to school burnout, and educational stress was strongest predictor of school burnout.

Table 3

*Predictor Roles of Metacognition and Educational Stress: Multiple Regression Analysis with Dependent Variable School Burnout*

| | Variables | Unstandardized Coefficients | | Standardized Coefficents | | | | |
|---|---|---|---|---|---|---|---|---|
| | | B | $SE_B$ | β | t | R | $R^2$ | F |
| 1st step | Es | .47 | .033 | .64 | 14.27** | .637 | .405 | 203.67** |
| 2nd step | Mc | -.27 | .032 | -.44 | -8.57** | .440 | .197 | 73.53** |
| 3rd step | Es | .42 | .040 | .57 | 10.53** | .644 | .415 | 10575** |
| | Mc | -.07 | .033 | -.12 | -2.25* | | | |

***p<.001; *p<.05 Es: Educational stress; Mc: Metacognition*

The results of the multiple regression analysis demonstrated that educational stress was positively associated with school burnout (β= .64, t= 14.27, p = 0.000). However, when educational stress and metacognition were taken together in the regression analysis, the significance of the relationship between educational stress and school burnout (β = .57, t= 10.53, p = 0.000) decreased, yet the relationship between educational stress and school burnout was significant. The current model was tested using the Sobel z test. The purpose of this test is to verify whether a mediator carries the influence of an interdependent variable to a dependent variable. The Sobel z test is qualified as being a restrictive test, and as such, provides that the verified results are not derived from collinearity issues. In the present study, the test value verified was Z= 6.96818488; p = 0.000. According to Sarıçam (2015a), this result indicated a partial mediation. Therefore, it can be said that metacognition partially explains the relationship between educational stress and school burnout.

## Results and Discussion

The main purpose of this study is to examine the relation between metacognition, educational stress and school burnout in adolescents. The secondary purpose is to determine the explanatory role of metacognition in the relationship between educational stress and school burnout. As a result of the study, a negative relation between metacognition and educational stress and school burnout was determined. In other words, as the level of metacognition increases, educational stress and school burnout levels would decrease, or vice versa. Another conclusion of the study proves that the explanatory role of educational stress and metacognition is important on school burnout.

The present findings supported the first and second assumptions so that metacognition was negatively associated with educational stress and school burnout. And also, metacognition was negative predictor for educational stress. These are consistent with the findings of previous studies (Spada, Gabriele, & Wells, 2009; Spada, Mohiyeddini, & Wells, 2008; Spada, Nikčević, Moneta, & Ireson, 2006; Spada, Nikčević, Moneta, & Wells, 2007), especially S-REF theory (Wells & Matthews, 1994; Wells & Matthews, 1996). It is sensible to assume that if individuals are aware of their metacognitive beliefs and could be able to control them, this awareness would be useful tool for coping negative emotions (such as burnout, stress, anxiety, depression and etc).

The present findings supported the third assumption, therefore, educational stress is a significant predictor for school burnout. This result seems to be related to previous studies that indicated students, who have higher educational stress, experience higher burnout levels (Lee, Puigm, Lea & Lee, 2013; MacGeorge, Samter & Gillihan 2005; Salmela-Aro, Kiuru, & Nurmi, 2008; Seiffge-Krenke, 2000). The results of these studies revealed the marked incidence of school-related burnout on adolescent school life (Walburg, 2014). Indeed, these studies indicate that the risk for internalized problems like anxiety (Silvar, 2001) and depression (Salmela-Aro, Savolainen & Holopainen, 2009) as well as educational stress (Salmela-Aro & Upadyaya, 2014) increases school-related burnout. This may be because educational stressor such as teachers, tests, homeworks and etc create extra burden for students.

Metacognition has an important role on the learning process of the student. It is especially directly related to the ways of learning and performance of students in the classroom (Pintrich, 2002). A student, who knows how to act in certain places, will not be confused and this would cause the stress factor to lose its impact. When we have analyzed the situations faced by students in the educational environment due to teachers and courses, we can see that they fall short of dealing with these stress factors and that this situation causes changes in their attitude towards school, causing school burnout (Moksnes et al., 2014). School burnout can be observed in students who develop a negative attitude towards courses due to the pressure created by peers, families and parents for obtaining academic success in school (Akın et al., 2013). In another study conducted by Sarıçam (2015a), it was determined that stress and

burnout causes a decrease in subjective vitality, in other words, that stress and school burnout is observed commonly in students, who do not have subjective vitality. It was determined that there is a positive correlation between subjective vitality, psychological well being and metacognition (Kiai, 2014; Keng, Smoski & Robinsa, 2011). Thus, positive metacognition would decrease educational stress and school burnout. In light of these considerations and outcome of the study, the 3 assumptions introduced in the beginning of the study were confirmed.

## Conclusion and Recommendations

The importance of metacognitive skills is increasingly *high* in our days, a period when the world becomes more complex and new ideas are presented each minute (Martinez, 2006). Thus, one of the most important duties of schools is helping the students in gaining these skills with the help of certain programs. Inoue (2000) also reports that metacognitive skills start developing at the age of 5-7 and that this development continues with the increase in the level of education. Thus, the sooner the individuals are provided with metacognitive skills, the higher the educational quality will be, preventing the occurrence of educational stress and school burnout in students in the future.

The concept of metacognition is a concept that will facilitate and improve the effectiveness of the learning processes of all students from elementary school to university. Thus, it is required to present programs that will enable the development of the context of this concept in all levels of education. First of all, the students need to be faced with situations that will enable them to use their metacognitive skills, secondly, the teacher should think loudly in the classroom when resolving problems enabling students to take this as a model and finally an environment should be created for teachers to be taken as models by the students both cognitively and socially (Martinez, 2006).

In the study conducted by Elkind (1987), the critical importance of the methods used by teachers was emphasized as one of the main reasons for the occurrence of school burnout. Methods determined in accordance with the ages of the children will facilitate their learning process. Otherwise, the inappropriateness of the methods with regard to the age of the child may influence the attitude of the child towards school negatively. As teachers attempt to use the methods they use for elementary school students in the pre-school education institutions, where there are no desks or tables, school burnout is observed and this negative attitude towards school would not be eliminated but increase every single day.

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# Teaching Virtue at Schools: Why? and How?

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## Abstract

The basic ethical attitudes are adapted, like learning the native language, without understanding the way of learning. For this reason, education shall support critical thinking about the meaning of being "a good person". The students may have the possibility of distinguishing the ethical objectives from moral rules if they seek for the answers of such questions as "What should I do?" and "Will this be right?" under the guidance of a teacher in order to realize the origin of their ethical values. A moral behavior requires moral sensitivity and moral wisdom. And ethics is inquiring on the basis of theories through such concepts as goodness, honesty, justice, virtue. As a science of moral rules that aims at determining the "good life", ethics reasons over these concepts and conceptualizations. Most of the time, it is claimed that some concepts like "justice" has gone beyond the cultural traditions but not the conceptualizations. And one of these conceptualizations is teaching "virtue" from the aspect of values education. The value problem arises as an evaluation problem and values problem in philosophical thought. In this article, it has been tried to analyze the teleological ethical moral conceptualizations that explain the method for practices oriented for the teachers, who aims at putting forward the personal happiness of their students, such as authenticity, autonomy, self-realization. In the light of three ethical theories associated with the form of teleological thinking developed in B.C. 5th century in Ancient Greece; *Nativist Theory*, *Tripartite Theory of Soul*, *Middle Way Theory*, it has been aimed to discuss the question "What is Virtue and Can Virtue be taught?". Hence, the analyses of basic concepts related to Virtue will be focused, followed by a summary of selected ethical theories, and finally, what type of questions the teacher should ask in the class who is considered to help the students build ethical conscious and reasoning. It is thought that the educational circumstances related to the mentioned method will contribute to the teachers for thinking by developing philosophical justifications for the problems with continuous value judgment, acting as an ethical thinker, developing ethical action and attitude.

***Keywords:*** ethics, moral, value, values, virtue, teaching virtue

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# Okullarda Erdem Öğretimi: Niçin? ve Nasıl?

## Öz

Temel etik tutumlar, anadili öğrenimi gibi nasıl öğrenildiği anlaşılmadan benimsenir. Bu nedenle eğitim, 'iyi' insan olmanın ne anlama geldiği hakkında eleştirel düşünmeyi desteklemelidir. Öğrencilerin kendi etik değerlerinin nereden geldiğinin farkında olmaları için "Ne yapmalıyım?" ve "Bu doğru olur mu?" gibi sorulara öğretmen rehberliğinde yanıt aramaları, etik amaçlar ve ahlaki kuralları ayırt etmelerine olanak sağlayabilir. Ahlaki bir davranış; ahlaki duyarlılık ve ahlaki akılcılığı gerektirir. Etik; iyilik, dürüstlük, adalet, erdem, gibi kavramlar aracılığı ile kuramlara dayalı sorgulamalar yapmaktır. 'İyi yaşam'ı belirlemeyi amaçlayan bir ahlaki kurallar bilimi olarak etik, bu kavramlar ve kavramsallaştırmalar üzerinde akıl yürütür. Çoğu zaman 'adalet' gibi bazı kavramların kültürel gelenekleri aştığı ancak kavramsallaştırmaları aşamadığı öne sürülür. Bu kavramsallaştırmalardan biri de değerler eğitimi açısından 'erdem' öğretimidir. Değer problemi, felsefi düşüncede değerlendirme problemi ve değerler problemi olarak karşımıza çıkar. Bu makalede, öğrencilerinin; özgünlük, özerklik, kendini gerçekleştirme gibi kişisel mutluluklarını öne çıkarmayı amaç edinen öğretmenlere yönelik uygulamaların nasıl olması gerektiğini açıklayan erekbilimsel ahlak kavramsallaştırmaları analiz edilmeye çalışılmıştır. Bu çalışmanın amacı; M.Ö. 5. yy'da Antik Yunan'da gelişen erekbilimsel (teleolojik) düşünme biçimine bağlı üç etik kuram olan *Doğuştancı Öğreti, Üç Parçalı Ruh Öğretisi, Orta Yol Öğretisi* ışığında 'erdem'in ne olduğu ve "Erdem öğretilebilir mi?" sorusunun tartışılmasıdır. Bu nedenle ilk olarak, 'erdem'in ilişkili olduğu temel kavramların analizi, ardından seçili etik kuramlarının özeti ve son olarak öğrencilerin etik bilinçlerini inşa etmelerine ve akıl yürütmelerine yardımcı olacağı düşünülen öğretmenin sınıfta ne tür sorular sorması gerektiği üzerinde durulmuştur. İlgili yönteme ilişkin eğitim durumlarının sürekli değer yargıları üretilen sorunlara felsefi temellendirmeler yaparak düşünmelerine, etik düşünürü gibi davranmasına, etik eylem ve duruş geliştirmelerine katkı sağlayacağı düşünülmektedir.

***Anahtar Sözcükler:*** *etik, ahlak, değer, değerler, erdem, erdem öğretimi*

## Introduction

Human is a being who knows and acts simultaneously, therefore, they continue their lives with constant and various actions. The field that examines the actions of humans, what their aims (goals) are and the values upon which these actions are based is called moral philosophy. Günay (2010) expresses that when human actions are evaluated as 'good' or 'bad', 'virtuous' or 'immoral', some criteria associated with morals and concepts with value judgment are referred. Similarly, Arslan (2016) states that an object, event, and fact is always valued, or such events, objects are always the subject of an evaluation. For example, the 'economic value' and 'artistic value' of a table, the tendency of most men for finding women's interest in some objects valueless, or the tendency for talking about the distinguished features of our car compared to the other cars.

Value can be aesthetic, moral, economic or religious. We may have never thought about what it is to value when evaluating these. Kuçuradi states in her "The Man and His Values" (2013) that the way we direct our lives depends on how we evaluate human beings and ourselves. At the basis of our existence lies our understanding of value, the basis of which is understanding humans, and our expectations from humans and ourselves. Evaluation is a condition of existence and a human phenomenon. One cannot live without evaluating people and themselves, events and situations. However, evaluating the same events, situations, people, behaviors and generally the same reality may be done in different manners and lead to hard conflicts. In this case, one can find himself in a dilemma about what the right evaluation is (Kucuradi, 2013). Hence, a humanitarian evaluation is something that is burdened on the object, the fact, and the event by humans.

The first moral philosopher, Socrates, states that morality is a "matter of right information". About justice Socrates does not ask "What is justice for the Athenians?" but "What is justice?" His questions about knowledge, virtue, and existence are also of the same universality (Nutku, 2000). According to Socrates, if morality is knowledge, and science, then that knowledge can be revealed through appropriate education, and humans can be made moral with this knowledge (Arslan, 2016). These questions, which have an important place in the history of universal morality, have led to the birth of science of morality (ethics). According to Socrates, corrupt ideas make people dangerous. A community's health depends on its citizens having right ideas about their behavioral problems. The main source of corruption is the generally accepted belief that man must seek prosperity and status before all else (Arnhart, 2013). Socrates thought that the level of understandability of a concept, object, event, and phenomenon that included value judgment could be as general as the extent to which the problems related to them could be clearly stated. Nutku (2000) specifies that the quality of understandability has an effect on updating the general problem. With this belief, it can be said that Socrates gave importance to understanding, the competence of concepts in the first place, and he argued that values had an objective and absolute structure, not a relative one.

Adopting an egalitarian, participatory and shared values in thought and actions is an existential necessity. In a world where a peaceful and just life and an order without violation of human rights has not been established yet, the need for students to arts and knowledge increases even more as a necessity of an existential concern. It is a necessity that students can establish rooted relations with each other and with life, be investigative and inquisitive, and stay away from prejudices. Arat (2000) argues that despite the increase in physical communication possibilities in our day, interpersonal communication becomes increasingly difficult in a world ruled by mass media, which in turn strengthens selfishness and identifies a single value and makes today's people uneasy. The author also adds that in human behavior there is no criteria for goodness, and there is a sense of worthiness and utilitarianism as the dominant tendency where an object regarded as worthy, desired, and considered to be good by a person is "good". In our days, the relations driven by opportunism are overshadowing a person's value (Nutku, 2000). In such an age, raising generations who have confidence in science and arts, have aesthetic concerns, build their own ethic consciousness, and making the so-called 'good intentions' visible should be the general target of the programs. For this reason, the content and method of values education is an important issue that must be focused on by the people working in curriculum development. The answers to such questions as "What could be the reasons for going away from the common values? How can a well-evolved life, human, world and political practice at the local, national and global scale be directed towards better? What should be the role of education in this transformation to the better?" are significant for the values education curriculum.

As mentioned above, moral philosophy is related to the human actions and the values at the basis of these actions. Moral values are the values regarding the things or behaviors that we can define as "good" or "bad", in the simplest narration. Even if the moral values revolve around a concept pair that is 'good' or 'bad', it may be a matter of argument to explain what 'good' and 'bad' are. At this point emerges the philosophy of morality (Arslan, 2016). It is the beliefs and actions that are qualified as 'good', 'bad', 'necessary' that bind the values with a moral bond.

In addition to the distinction between 'good' and 'bad', discrimination of fact and value is another matter that ethics deals with. In the world of facts (proven hypotheses), we are in confidence. In the world of values, we are deprived of such a confidence (Billington, 2011). Yöney (2015) states that the problem known as the distinction between fact and value in the philosophy of ethics, was put forward by Hume and Moore in the 18$^{th}$ century. The distinction between fact and value is the argument revealing the relationship between the value propositions which can be defined as fact propositions and value propositions, and the differences between these two. The author states that our moral judgments will be far from being arbitrary, as long as moral characteristics are related to natural characteristics. For example, acts such as theft, unjust murder, and helping someone in need, which are the subject matter of moral judgment are observable and universal. Another example may be as follows; 'The world is round' is a factual proposition, while 'The world is the most beautiful planet of the milky-way' is a value proposition.

Making the values an object of education leads to a series of problems such as the ontological and epistemological status of values, the hierarchy of values, which values are suitable to be taught, and how value education is going to be done (Aydın, 2015). These questions are vital; an education system cannot be expected to be directed to value education without answering these questions, and forming an understanding in relation with these. And this is among the basic tasks of the educational philosophy. The answers to these questions are the determinants of the answers given to such questions as "Why do we teach" regarding the targets or acquirements, "What will we teach?" regarding the content, "How will we teach" regarding the teaching strategy and method and techniques, and "To what extent have we taught" regarding the measurement and evaluation. For instance, if the source of values is based on a transcendent ontological and epistemological basis, a different educational program will emerge; and if it is based on a humane basis, a different educational program will emerge. Different preferences require different evaluation systems with different purposes, different contents and different teaching methods and techniques. The center of education consists of the concepts of goodness, honesty, truth, morality; therefore, establishing the concept of "virtue" and in order to establish that concept, establishing the fundamentals of an education system taking "virtue" in its center and which can go into the roots of "virtue" is important to realize the goals and contents of the values education program. From this aspect, a value education program with a rich content has vital importance for students to face with different value systems, introduce them with different philosophical approaches regarding value, and make sound value analysis, and build up their own values.

## The Aim of the Study

In this study, a literature scan has been performed on teaching "Virtue", which is the most important problem of values education in historical process, in order to show that philosophical aspect of values can contribute to value analysis, and enable students to build their own values in their world of thinking; followed by some examples have been given for the questions that can be asked by teachers in the class. For this reason, in the light of three ethical theories associated with the form of teleological thinking developed in B.C. $5^{th}$ century in Ancient Greece; *Nativist Theory, Tripartite Theory of Soul, Middle Way Theory,* exemplary events have been presented in relation with the "virtue" teaching, questions, moral dilemma problems, issues in which we produce value judgments (e.g. censorship). An analysis of basic concepts of morality, followed by a brief summary of selected moral theories, and finally, the question types that can be asked to students for discussion have been handled in the article.

It is thought that the exemplary questions related to the mentioned methodology will contribute to students' thinking about values, acting like ethical thinkers, and developing attitudes about ethical action, attitude and behaviors.

## Teaching Virtue with Questions

It is very important to ask and discuss questions in the process of learning-teaching. With this belief, firstly the students' current way of thinking can be revealed by asking such questions as 'What is value', 'What is values', 'What is morality', 'What is ethics', 'How does an ethics philosopher act', which are the most sensitive questions in the history of philosophy regarding virtue education; and contributed to students for the development of high-level thinking skills. The definitions of these concepts about the subject matter are provided below.

### Value and values

Although the concepts of 'value' and 'values' seem to be the same, they are actually different things. 'Values' are the available possibilities. 'Value' is the value of something, the qualities of something. 'The value of man' is something and 'the man's values' is another thing. Similarly, 'the value of art' or 'the art's values' are different things. 'The value of man' is the special status of man as a species among other beings. The right to live, nourishment, education and immunity of every human being, that is, the rights gathered under the name of human rights, expresses the value of man. 'The man's values' are the successes of man as a species; his knowledge, art, philosophy, technique, culture. These achievements become the subjects of the human world as supra-personal and interrelated values. 'The value of the person' is the special status of the person in the society. It is the expression of the value of a person like being equal with other people in terms of human rights and the necessity of not being used as a means in any way. As for the 'Person's values', these are the personal opportunities such as love, honesty, loyalty, respect, open thinking, and establishing correct relations that emerge in interpersonal relationships. As understood from this, the value of something is the special place of that thing among the others of the same kind. And the values, are human phenomena that come true by the works or actions and lives of people. (Kuçuradi, 2013).

It is not possible to avoid values, nor there is a period when values education is not done and values are not passed on. Social life is continuous. Whether consider the humans lived in the ancient, in the medieval, or the modern age, there has always been a values system related to the actions of humans, and a strong effort is observed to pass that system of values to future generations. This is done in non-formal education if not in formal education. What are the values that children need to acquire? The modern era, as is most of the things, is trying to bring the field of values into formal education as well as to center the series of universal humanist values in education. Turkey has not been out of this process, and there are deep debates about the field of values in the Turkish education system, as observed recently.

As emphasized above, there is no human action nor associated with values. Values become materialized within life (Mengüşoğlu, 2015). The basic feature or

characteristic of human is being in relation with values, creating values, being the carrier or the materializer of values.

### Ethics

The concept of ethics comes from 'ethos' in Greek and means character. And 'Morality' comes from the Latin *'moralia'* word which means habit or behavior. Ethics orients for finding a meaning for various facts of moral life over an integrative normative theory. Ethics, which is the moral values branch of philosophy, is an ancient and fundamental discipline having a history of 2500 years. The most important point that reveals this discipline is the debate that philosophers such as Socrates and Plato started on the purpose (goal) of human life and the qualities of a virtuous life. Ethics refers to moral philosophy, so it is the theory of practice. Ethics is a rule-maker or a normative discipline that informs about what should be. In short, ethics is the theory of the right and wrong behavior. It will be more accurate to talk about ethical principles, not moral; and moral behaviors not ethical (Billington, 2011, Walnut, 2014). One can talk about medical ethics; but it is unlikely to talk much about medical moral, however, a doctor's morality can be touched upon. Medical ethics is about general principles such as the relief of pain which the profession tries to care for needs to work on; and a doctor's morality is related to his/her personal behavior (Billington, 2011).

### Morality

The word 'Morality' is a name, closely related to the adjective 'moral'. This adjective is frequently used with such phrases as 'moral judgment', 'moral behavior', 'moral belief', 'moral preference' and 'moral principle'. In this stage, instead of asking "What is Morality", it will be more effective to learn the relevant concept making use of "moral" adjectives, in other words going towards abstract from the concrete. For example; when the question "What is moral judgment?" is asked; we see some words including "right", "wrong", "must" when one desires to make a moral judgment. Therefore, making use of 'value' concept, a proposition is put forward regarding moral judgments. E.g. 'Everyone must love his/her neighbor'. The moral judgments are expressed with sentences including other terms (Feldman, 2013). And morality is the behaviors demanded and expected to be obeyed by people in interpersonal relations. These are the behaviors that must / must not be done (allowed, not allowed; encouraged, forbidden). Morality is the value judgments valid in a certain place at a certain time: being loyal to one's promise is good, lying is bad, being honest is good (Kuçuradi, 2014). Briefly, while morality is something undergone with facts and history, ethics is the name of the philosophical branch orienting to this fact (Günay, 2010).

### Moral action

Günay (2010) expresses that each action of humans does not bear a moral value (actions realized with instincts such as nutrition, protection, reproduction), but their actions realized by their free will bear moral value. Desire (free will), freedom,

responsibility, conscience, virtue, good, bad are the basic values used to describe and evaluate the moral actions. In addition to this, Günay (2010) says that the concept of the "other" is also important in discriminating the moral actions. As such, each moral action is directed towards the others or another person; they emerge in our relations with the others. We are responsible for our actions as they will affect the others and may be to their benefit or harm.

## Theoretical and applied ethics

There are two dimensions of ethics; theoretical and applied. Theoretical ethics has a history of two thousand five hundred years. Applied ethics tries to solve concrete and specific moral problems by combining the favorable and the controversial arguments. Because of this feature, ethics is the theory of practice. Morality, a concept often confused with ethics, is the whole of the values and norms that an individual readily meets in society. The individual is the receptor of moral values to an important extent. From this point of view, morality and being moral is a factual and historical practice. The source of morality, which has a local and practical character is religion and the social contract, a secondary historical resource that develops in parallel with the secularization of religion. As a result, morality is local and practical; ethics is universal and theoretical. (Cevizci, 2014).

Ethics or moral philosophy is defined as morality, being moral, a systematic thinking on values, questioning, debate and research on moral life. Those who contribute to ethics are philosophers and thinkers engaged in ethics. Everyone with common sense who deals with moral problems can think about morality. However, thoughts and discourses about moral life are not always consistent and questionable, they can even stay away from exploring moral problems. The ethical thinker, on the other hand, examines moral problems while aiming at providing guidance to people in matters such as what to do, how to behave, what to pursue, how to treat other people. The ethical thinker does not just put forward some values, but also redefines them when needed, puts forward the first principles of morality in a systematic and consistent way, and tries to base these principles on an argumentative basis. The basic character of ethics is its generality, theoretical and systematics nature, argumentative structure and efforts for proving and justifying its claims. The problems or issues dealt by the ethical theories developed since ancient times are classified in three as follows: (Özlem, 2014; Cevizci, 2014):

*1. 'The best (value)'* problem: 'What should I select' or 'What is the highest value you should have so as to be happy?' This subject is based on various happiness (eudonomia) ethics developed in Ancient Greece and the understanding of pragmatism of the modern era developed by John Stuart Mill. In this group, the dominant problem is to reach the "highest good". In this article, this theory was used in the virtue education.

*2. 'Correct action'* problem: 'What should I do' is the Religious ethics in Middle Ages and Kant's Work Ethics (secular version of Christian ethics).

3. *'Steady Character'* problem: (Alasdair Mcintyre's Virtue ethics). According to this classification, he expresses that in the last category the moral life can be understood through a mature character arising from the correct actions.

The first of these has resulted in a survey on what real happiness is for a man in general. The second led the philosophers to a task or value theory, while the third created virtue ethics. Thus, ethical theories are collected in three main categories, focusing on consequences, moral righteousness or moral obligations and virtues, respectively. On these grounds, one of the best ways to understand this division among the ethical theories divided into three as teleological ethics, deontological ethics, and virtue ethics is trying to understand what the carrier of ethical values is for each of them. In terms of teleological ethics, the carrier of the highest good or basic ethical value is the *good state* or *result* while it is the *correct action* for deontological ethics. The third theory, the virtue ethics, emphasizes the *idea of a good person* as well as the *thought of good person* who can be defined as a respectable person in ethical terms. This is an important emphasis, revealing that the concept of virtue is very important in ethics. (Cevizci, 2014).

**Happiness based (eudonomist) morality / highest good (value)**

Eudemonist ethical theory is a theory based on reason and sees the purpose of a person in happiness. In this respect, the conception of happiness as the final goal of human actions is generally called "Eudaimonism" (happiness). The whole ancient time ethics, in general, has Eudaimonism character. It deals with the questions "What should I choose?" What is the highest value?" In the ethical theories of philosophers such as Plato, Aristotle, Epicurus, happiness is a concept that expresses the purpose and value of life in the human spirit (Akarsu, 1965). Happiness is the final goal of all desires and the highest goal of human existence. One of the distinguishing features of Socrates, Plato and Aristotle's worldview, which is central to Western philosophy, is the assumption that everything has a goal and function. The form of thinking "based on the goal" (teleological thinking), a concept derived from the "telos", which means "goal", is the basis of morality for these three philosophers.

The problem regarding the purpose of human life and how to achieve this is the main problem of Socrates, Plato and Aristotle. This question and problem inevitably brings about an education debate. Man's development is up to himself. At this point, existentialist motifs are observed in these three philosophers. As a being with intellectual skills, human seems to have a privilege and responsibility in determining the direction for his own development. The conclusion that 'Western philosophy is a footnote to Plato and Aristotle' continues to be valid in this context (Düvenci, 1993).

In addition, those who defend the ethical theory based on happiness have different thoughts about what happiness is. Some give priority to spiritual enlightenment, some to realizing oneself, and others to wisdom. For example, for Plato, happiness is to observe the beauty and goodness; for Aristotle it is to fulfill one's powers and make the hidden goal operative; for Epicurus, it is immaterial joy.

It is also possible to encounter thinkers who consider happiness totally as sensual pleasures, like Aristippos.

In this light of this ethical theory, students can be made to think about the value and meaning of life. With such questions, it may be possible to build ethical awareness:

- Does life mean anything?
- What is happiness for you?
- Can those who pursue sensual pleasures be happy?
- What will a person who eat too much from his/her favorite food face?
- Is learning a pleasure? What kind of pleasure is this?
- Does it make people happy to discover and develop their own latent powers?
- What is the relationship between morality and happiness?
- Has mankind discovered a reliable standard of goodness? Is it possible to establish politics on such a basis if we assume that it is discovered?

**Socrates' Ethics on Happiness (Nativist Theory)**

In Socrates' moral teaching, happiness is positioned as a goal. In the history of philosophy, there are also philosophers who think that morality is innate. Socrates is one of them. The meaning that Socrates gives to the good-bad concepts can be best explained with the sentence "no one will intentionally do evil". The feature of this sentence is the emphasis made on innate (apriori) wisdom. A person is born knowing the 'good' innately. But he/she forgets it over time. It is therefore necessary to remind them (anamnesis). The forerunner of moral philosophy Socrates, bases his thoughts on the view that 'virtue and knowledge are identical'. For this reason, the ethics of Socrates is described as an intellectualist ethic. According to him, virtue is knowledge. Knowledge and reason are the sources of all moral actions, and the reason for all wrong actions is ignorance. Everything goes well under the power of wisdom. Moral life leads people to knowledge and self-recognition. In short, if knowledge is the foundation of morality, virtue is the source of happiness.

In the period of Socrates and Sophists, the concept of virtue (*arete*) meant many more than one thing. The first meaning of virtue was bravery, this was what the god of war, Ares wanted. Homer also uses virtue in this context (Nutku, 2005). Socrates made intensive efforts to justify the belief that universal ethical values existed in Ancient Greece, where moral relativism was defended and there was no general values for Sophists (Cevizci, 2014). Socrates opposes the relativity of the Sophist tradition and does not try to teach information through education like them; but searches for the "truth" with the one surrounding. Discusses ideas about the best way of life. In his dialogues, he always tries to get a common recognition (osua) in order to determine the concept. Socrates applies his own method of birth (meiotic) to the problems in human life. The questions *"What is the right living, which is it?" What is humane good? What is humane competence? How can it be obtained? How can it be taught? What is the goal of human life?* is also the beginning of an entire moral history (Gökberk, 1993). Socrates rebelled against the leaders of his time, because

they were not wise as they thought. Socrates claimed to be wiser, at least by saying 'he knows nothing' (Savunma 21a 22e; Arnhart, 2013).

According to Socrates, it is necessary for a person to recognize himself and mature by knowledge. The call for self-recognition, which is very important in Socratic morality requires some virtues. No doubt 'wisdom' will come at the beginning of these virtues (Özlem, 2014). Socrates' insist on self-recognition orients for correcting the citizens by teaching the importance of rational self-questioning (Arnhart, 2013). Socrates answers the question "what comprises happiness" as 'spiritual competence' (Versenyi, 1995). Spiritual competence is having wisdom, boldness, moderation and justice. The "good" born from the wisdom, and has a solid foundation on knowledge makes people happy, gives health and well-being to the soul (Gökberk, 1993). The wise person who knows his "self" knows what is really 'good' for him and what is really 'bad' for him, and does what is good for him (Versenyi, 1993). According to Socrates, self-recognition is the precondition for virtue. Virtue is identified with knowledge.

As stated above, in Socratic ethics, 'self-recognition is very important. Recognition in this sense means to remember the innate knowledge. Self-recognition is the path to a virtuous man. He believes that the one who determines the truth is a law of the mind. According to him, the virtuous person develops himself, know the things that will make him glorify and live them - in other words, a virtuous person is the spirit who has taken over the self-control of existence. He says that a person who has not earned his own self-control and who has not been able to tame his animal nature cannot be a free citizen. Socrates also changed the orbit of the previous philosophy, by discovering the moral and intellectual spirit of human beings. The questions "What a virtuous person should do and what not to do", "What should he undertake and what not to undertake?" are the basic questions specific to human powers. It is impossible for any human to desire evil, which is synonymous with desiring to be unhappy, and this is something not of human nature. 'Good' is useful, beneficial, it is the thing man needs, and man lacks. 'Good' is the desired, needed, lacking. The roots of human well-being are in the needs of man. People desire good for nature.

Socrates' expression "innate virtue of knowledge" forming the core of his moral teaching and he never fed up repeating also influenced his student Plato. "What kind of knowledge is virtue? 'Virtue is knowledge about wisdom, goodness, abuse, and self. Knowing oneself ". According to Socrates, all people are 'good' innately. Here lies the essence of Socrates' moral teachings. So the focus of the education should be on the actions and functions that will reveal the "forgotten good", the source of evil from time to time. It is imperative to educate the mind of man in order to reveal "the real" and "forgotten".

The following questions can be asked to the students in classroom activities starting by the 'Nativist Theory':

- If moral is innate, is moral education necessary?
- If everyone has innate morals, why do the moral values of people differ?

Through such questions, the students can be made to think about the epistemological foundations of ethical information.

**Plato's Understanding of Idealist Happiness / Conflicting Moral Theory**

Plato argues that a good life, that is happiness (Eudaimonia), is the ultimate goal for all people, the thing that will make a person happy is goodness, and the thing making a person good is nothing but virtue, honesty and justice. Virtue will bring people closer to their good ideas as much as possible. According to Plato, virtue cannot be taught later, since knowledge exists as "apiriori" from birth, but those are reminded later with Socratic method. Plato interprets learning as an intellectual education that mediates the act of 'remembering what people bring from birth'. Kant also repeats the same view once more from an enlightened perspective, saying that 'doing philosophy is not taught but learned'. The purpose in education should not only be the transfer of moral teachings. The teacher can encourage students to think philosophically by asking questions.

In addition to being influenced by Socrates, Plato also developed a new theory that transcended Socrates' moral theory. As mentioned above, Socrates said that wisdom is a necessary virtue in order to reach happiness through knowledge. Plato put four virtues needed to be happy, which were self-control, wisdom, courage and justice (Özlem, 2014). According to Plato, a virtuous, namely good personality means that a person always chooses virtue by his freewill - that is, by acting accordingly - and aims to make it a natural tendency (habit). Wisdom is the main virtue that leads to ideals.

Plato also states that man's various physical and psychic acts and functions must be in balance and harmony. The balance and harmony can only occur in a healthy body and soul. Full functioning of organs is a condition for balance and harmony for the body, and similarly, it is a condition for spiritual balance and harmony that its parts are fully functional. Happiness can only be achieved with this balance and harmony (Özlem, 2014). Plato's "parts of the soul" doctrine is also a moral distinction. According to Plato, the human soul has three parts (Tripartite). The parts of the soul correspond to the lifestyles that have certain places on the scale of moral values, and each part of the soul corresponds to certain classes in the social hierarchy. The first and most valuable of these parts, is the intellectual part of the soul, namely the 'mind power'. It is the wisdom of the human being, whose mind is up, turning eyes towards high things. In order to sustain a wise life, this side must be dominant. For this, an education on the basis of education of mind, discipline, loyalty, self-sacrifice should be built.

The second of the soul parts, which is the 'enthusiasm of the person' consists of anger and passion, conflicts with the mind and will. The third part, which covers most of our body is the "appetite (desire)" and motivations, physical desires, wishes.

Exuberance and appetite expire with the body, and the mind is the immortal side of the soul. Mankind can be virtuous as long as he controls his exuberance and appetite (desire) with his mind. Mental ability and appetite always conflict with each other. If the will or the enthusiasm is controlled by mind, the person becomes moral, if the person is defeated by desires and exuberance, he becomes immoral. In this way, good and bad morality is the product of the clash between the parts of the soul. According to Plato's "tripartite theory of soul", the virtue of the mind is 'wisdom', the virtue of heart is 'courage', and the virtue of appetite is "moderation". Plato also places justice at the top of hierarchy. Justice is the absolute condition for the existence of all other virtues. Justice will come true when the other three virtues co-exist in harmony. It is thus revealed that the positivism, the practice of a worldview based on the sovereignty of the mind, and thus the roots of the Enlightenment traces back to Plato.

Platonist teaching is important in revealing the cognitive contradictions we experience in the decision-making process, and in this way we benefit from it in education. Students can be asked the following questions to make them think:

- Have you experienced internal tension in telling the truth or not?
- Have you regretted some of the decisions you have made? Why?
- How did you feel when you could not help a person in need of help?

**Aristoteles' Middle Way Theory / Common Sense Ethics**

According to Aristotle, people have a number of purposes in their lives. These aims are; passing the class, studying to have a profession, not missing the bus, etc. People also have their ultimate goals, which are appropriate for their nature. Aristotle says that this goal is eudaimonia, like Socrates and Plato.

Aristotle explains ethics and virtues in his *Nikomakhos Etik*. According to this, a person is called 'virtuous' when he does the work suitable for him, fulfills his specific functions, achieves his own purpose or his good. Kabadayı (2013) also asserted that he emphasized as well that virtue is a matter of habit. One gains the habit of being gentle with gentle actions on a regular basis and being a moderate person through moderate behaviors. Thus practicing virtues is both a tool and a part of good life. A paragraph in *Nikomakhos Etik* explains this idea as follows:

> *"We acquire the virtues by trying first, and this is the case in art. Because we have to be able to learn first, we learn by doing, people become masters by building and become lyric by playing lyre; similarly we become fair by doing fair things, we become decent by doing decent work, we become brave by doing daring works. We become just or unjust through the actions we perform in our relationships with other people, and we are brave or coward by doing what we do at the time of the danger and by accustoming ourselves to fear or confidence (2nd Book, b.3-4)."*

According to Aristotle, everything in the divisible structure consists of two ends and a center. He adopts the middle way as the measure of perfect moral action that may apply to all. The middle way may be relative to the person on the basis of what is happening, so we try to figure out what the truth is and try to find the 'middle way'. Our standard of a perfect moral action is another. Virtue is concerned with the interactions and actions that are wrong, lacking, praised, and the right. In that case, virtue is a kind of 'being moderate'; it aims at the middle. No one can ever be good when he / she does not act so. According to Aristotle, there are things that are distorted by 'lacking' or 'extremism'. Moderation, bravery are also distorted by extremism or lacking and protected by being moderate. 'Extremism' and 'lack' are specific to evil, while 'moderate' is specific to virtue. Virtue is a habit of preferences, the right judgment power determined by the mind and by the decision of the man, and being in the middle. Virtue is finding and choosing the middle. The following questions may be asked in order to build ethical awareness of students in compliance with the Theory of Middle Way:

- Is there a middle way in which we can measure our actions?
- Is there a middle way of concepts such as splurge, justice, lying, theft, wisdom, soulfulness, equity, generosity? If so, what are these?
- Wouldn’t the 'golden middle' of everything or 'golden middle rule' be useful for us in morality?
- What does Aristotle's phrase 'Resisting the pleasure is more difficult than resisting the anger' mean?

In modern societies, even within the time frame we live, the humanity is struggling with the anguish that extremists are causing. Massacres, alienation, murders, humiliations, child abuse, corruption often emerge as a result of the conscious actions of extremists. Is not it time for us to think about what kind of role the education system might play in normalizing excesses?

**Education Status and Virtue Education**

Ethical theory emerged in B.C. 5$^{th}$ century when philosophers like Socrates, Plato, and Aristotle started to question the purpose of human life and the features of a virtuous life. According to the moral doctrines they developed based on the form of teleological thinking, it is considered to be the goal of human existence. The final goal of life is to reach happiness (Eudonomia) by developing the potential for becoming a virtuous human being through knowledge. As expressed by Plato, it is man’s self-realization.

Following the information on the ethical theories which are tried to be outlined above, now it can be examined how the educational situations for the 'virtue teaching' can be arranged in the education programs in the light of mentioned theories.

The necessity of exploring values in a philosophical way, in an objective and unbiased manner, should be emphasized in educational programs. From these theories, we can give concrete examples from practical lives, and ask questions to

students to improve their thinking. Namely; it can be found out whether virtue can be taught or not, what human life is, what human perfection is, what human competence is, how it can be obtained, and how it can be taught. In this context, some problems can be addressed by problem solving method on the problem of 'teaching of virtue' in the classroom environment. In the "problem solving" process of virtue teaching, the answer to be given to the question is expected to produce hypothesis, testing them, undergoing stages like decision making and evaluating, rather than short answers as yes or no. For example:

**Evaluation and Evaluating Problem**

- What might be the reason for leading many philosophers to the understanding of relativity of values, and that the same thing or things are evaluated differently by different ages and societies?

**Socrates' Nativist Morality Theory**

- What do we understand from Socrates' words, who developed a new educational nation, 'virtue is knowledge' which forms the core of his moral theory and he repeats continuously and "there is only one thing I know, and I know nothing?"
- According to Socrates, why the source of all our moral actions is knowledge? What does the equality of virtue and knowledge mean? According to Socrates, what is the basis of man's virtue?

- What does Socrates want to say with the call for "self-recognition"? Why is it important for people to question themselves rationally?

- Is conscience a value consciousness we have a (priori) inherently?

- What are the most important problems that is examined by ethics and can not be agreed on?

- Oktay Akbal says in his story*; "First the bread was distorted"* he wrote under the living conditions of the 1940's when he was still eighteen years old that *"We needed to be happy, though not totally". "We were unaware of the bad things on Earth, for us, bad was the ugly murderer in the film and the Physics teacher always giving zero to everyone... Everything started with bread, end up with bread ..."* Explain this story according to Socrates' 'human is good innately, forgets it over time' (anamnesis).

- Picasso, who drew Guernica is the most important symbol of peace. *"War is not a virtuous life!"* Explain this story according to Socrates' 'human is good innately, forgets it over time (anamnesis)'.

### Plato's Tripartite Theory of Soul

- Is the actual life of man is a consequence of self-functioning of Plato's understanding of three virtues of man ('mental ability', 'enthusiasm', 'appetite') or a consequence of his education and a result of influences of the society he lives in?

- Plato associates virtue with human nature. According to him, virtue is the condition of man's nature. Consider this statement taking into account your knowledge of Plato.

- According to Plato, 'virtuous people are the people who can approach the knowledge of ideals most. Wisdom is the main virtue that leads to ideal'. So what virtues should people adopt to approach the 'good' idea?

### Aristotle's Middle Way (Common Sense) Theory

- Evaluate the sentence "Do not do it to someone else that you do not want it done to you!" from Aristotle's middle way theory.

Human being is a being that produces value. In this context, it is possible to make students think by presenting case studies, moral dilemmas (paradoxes), and problem situations. For example, some questions may be asked to improve students' high-level thinking skills and be discussed in class in the guidance of teachers. For example, by asking such questions as "Since virtue is a personality characteristic, how do we know if a friend of ours is virtuous in our relationships with people? How do we decide that one is virtuous? What would Socrates, Plato, Aristotle say, etc.?" the content of the course can be enriched through discussions and effective participation of students, clues, reinforcements, feedback, corrections, and full learning of the students can be achieved.

## Discussion and Conclusion

Ethics is a workplace that sets norms, creates rules, advocates new values, advances in moral life, explains what people should or should not do, reminding people of their obligations and responsibilities where objective, moral and facts are admitted to be present. Numerous ethical theories have been put forward in the field of normative ethics over the past two thousand and five hundred years. These can be grouped under three main headings: Teleological ethics, Deontological ethics, Ethics of virtue. The first of these three ethical theories, namely the teleological ethical theory has been handled in this study. This ethical theory that developed in Ancient Greece focused on moral centered character education in education. This type of education was called 'paideia'. It was believed that education (paideia) would take place through research on the core of the virtues and the nature of the virtues (Cevizci, 2013). 'Achieving the highest good (value)' was the dominant problem in the ethical field. Are not we all searching for the most satisfying life possible today?

Are not we evaluating the extent to which education supports us in this search? The questions asked by Socrates, Plato and Aristotle are still on the agenda. When those who are dealing with values education stop for a moment and has the concern 'What are we going to teach?' the way to make more competent and functional education programs will open.

The closest link of values education is with philosophy. Values education should ensure that the student gains independence as a moral subject. The nature of this subject area requires concepts, moral dilemmas (paradoxes), open-ended comparative questions, philosophical thinking through reasoning. Socrates' saying 'unquestioned life does not worth living' is observable in societies that successfully depict democracy. Democracy in politics, freedom in science, autonomy in institutions emerge only in contemporary societies, which have faced with contradictions and live art and philosophy together. The West has adopted the concept of self-ownership as the highest value (Spring, 1997). This concept emerged from the rationalistic basis of the 18$^{th}$ century Enlightenment. Enlightenment rebelled against all sorts of dogmas that prevented the free use of the mind. If ideology gave the form and meaning to information, knowledge could be transformed into a structure that used people rather than used by people. For this reason and to liberate the mind, the obstacles before self-ownership' were eliminated from education.

Plato's conflicting ethical theory, based on morality on happiness, tells us that the mind is the most basic condition of the sovereignty of the soul, that is, the virtue of the knowledge of ideals. A virtuous soul depends on the realization of its nature. According to Plato, the person who lived in an exemplary manner for a philosopher, lived consistently with his actions and beliefs and who lived and defended them was his teacher Socrates. He spoke about justice in his defense, when he knew that he was accused of atheism and sentenced to death. When Delphi's priest called himself the wise man, Socrates tested his wisdom throughout his life and devoted himself to self-recognition. According to him, 'knowing oneself' is not the moral command but the most humane call that man can make to himself. Getting to know yourself is a clear consciousness to the future. We can only know how to behave after we know who we are.

Aristotle, who says that there is a sense of moderation between the extremes says, "The measure of the truth must be someone else so that the soul can direct to the middle way", and he voices the common sense. While Plato attaches importance to moral character in the virtue ethic, there is a strong emphasis on practical life in Aristotle's virtue ethics. We can learn to choose 'middle' for ourselves. For example, we can figure out what to do when the decision-making process comes. We are happy when we are sure of our moral judgments, because when we are happy we trust ourselves. Since the moral judgments are made by reasoning, it may be useful to recall some of Rousseau's views on this subject. In his book 'Emile' in the 18$^{th}$ century, Rousseau defended 'negative education', which envisions avoiding any moral situation before the time when the child would be able to evaluate using his own reasoning. Negative education recommended a method of 'isolation', which

meant direct verbal intelligence avoidance, leading to an acceptance on the basis of authority, rather than reasoning in the child.

According to the views of the three great philosophers, the search for best is life-long. The ability of students to search for the best, reasoning, and behave as an ethical thinker can develop contextual thinking, analysis, synthesis skills by understanding the connections in these ethical theories. With this belief, the main aim in the curriculum of values education should be to contribute to the building of ethical awareness of students. The task that values education must achieve should be the concern for raising happy humans as a necessity of human nature, and reaching to wisdom as a moral virtue A virtuous life; a life based on thought, a life full of philosophy; in the way to the virtues such as good, beautiful, right, justice and equality should form the basis of values education programs, in other words, walking in the way of philosophy. The value education built on the basis of the moral teachings mentioned can contribute to the development of the ethical vision. According to Zohari's 'self-recognition window', if we can improve our awareness in our closed windows, we can positively control butterfly influences in building a meaningful life and the future.

## Recommendations

Suggestions for education of values are presented according to four items of curriculum development. In this context;

### 1. Objectives in Values Education

- Socrates thought of ' being a person who knows and recognizes himself is a virtue' can be the prior target to be achieved in values education
- The purpose of values education can be educating students to act as ethical thinkers in their lives.

### 2. Contents in Teaching Values

Plato’s dialogues are important both in terms of a strong literary language and the philosophical thinking for the students. Plato’s Dialogues are very useful in values education in terms of content and they are based on the method of providing students with reasoning.

### 3. Method in Values Education

Socrates uses a typical reasoning form in ethical matters: First, the premise with the factual statement is presented, the rule or the principle applies to this situation. *“If I run away, I will have broken my promise”* (The Advocacy of Socrates, the Kriton Dialogue). Socratic thinking can be used in values education.

## 4. Assessment in Values Education

The evaluation of the teaching process can be done through the participation of the student throughout the semester, original recommendations, discussions, views, discussions and drafting written reports.

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# The Artistic and Medical Importance of Vocal Training*

**Ömür Munzur****

## Abstract

Vocal training is a type of education that develops good habits in using one's voice for effective and correct use while speaking and singing. From a medical perspective, the discovery and development of new technologies have contributed to our understanding of the makeup of the human voice. By means of these tools, a host of new frontiers have been opened in the knowledge and therapy of voice. One of these treatment methods is vocal training (voice therapy). It is very important that people who experience vocal problems need to see an ear, nose and throat specialist first, and, if need be, to apply for a vocal education with the advice of the specialist. Problems experienced should not be ignored or else serious and invasive operations may be required, and irreversible negative results may arise. Some of the discomforts that may be experienced due to the incorrect use of voice by people who apply it for professional performances are: vocal cord nodules, vocal cord cysts, vocal cord polyps, etc. To avoid such discomforts from the beginning, one should learn the correct use of the voice; hence, it would be appropriate to receive vocal training. In case desired results are not achieved by vocal training, it is very important to try alternative medical strategies for people's vocal health. People who receive proper vocal education would protect themselves from the potential vocal problems discussed in this article, and they would be able to perform at the highest level in professions for which the voice is intensely used. This study presents the reasons that vocal training is necessary from both the artistic and medical perspectives.

***Keywords:*** vocal training, voice therapy, vocal health, use of voice

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# Sanatsal ve Tıbbi Açıdan Ses Eğitiminin Önemi

## Öz

Gerek bilimsel gerekse de sanatsal disiplinlerin ortak çalışma alanı olan ses eğitimi, insana, sesini konuşurken veya şarkı söylerken doğru ve etkili kullanmasına yönelik davranışları kazandıran bir eğitimdir. Ses yapısının iyi anlaşılması, tıbbi açıdan birçok yeni teknolojik aygıtın keşfedilmesini ve geliştirilmesini sağlamıştır. Bu aygıtlar vasıtasıyla birçok tanı ve tedavi yönteminin önü de açılmış bulunmaktadır. Bu tedavi yöntemlerinden biri de ses eğitimidir (ses terapisi). Ses problemleri yaşayan kişilerin önce bir kulak-burun-boğaz uzmanına, sonra eğer gerekiyorsa uzmanın yönlendirmesiyle ses eğitimine (ses terapisi) başvurmaları son derece önemlidir. Yaşanan problemler ihmal edilmemelidir. Aksi takdirde ciddi cerrahi müdahaleler gerektirebilir veya geri dönüşü neredeyse imkansız olabilecek olumsuz sonuçlar doğurabilir. Seslerini kullanarak mesleklerini icra eden insanların yanlış ses kullanımında karşılaşabilecekleri bazı ses rahatsızlıkları şunlardır: Ses teli nodülleri, ses teli kistleri, ses teli polipleri vb. Baştan bu gibi rahatsızlıklara zemin hazırlamamak için sesin doğru kullanılmasının öğrenilmesi gerekir. Dolayısıyla, ses eğitimine (ses terapisi) yönelmek uygun olacaktır. Ses eğitiminin sonuç vermediği vakalarda da tıbbi yöntemlere başvurulması kişilerin ses sağlığı açısından çok önemlidir. Ses eğitimi alan kişiler, burada belirtilen oluşması muhtemel ses rahatsızlıklarından kendilerini korumuş olacaklar ve yoğun ses kullanımı gerektiren mesleklerini en üst verimlilikle icra edebileceklerdir. Bu çalışmada, ses eğitiminin sanatsal ve tıbbi açıdan neden gerekli olduğu bilimsel veriler ışığında sunulacaktır.

***Anahtar Sözcükler:*** ses eğitimi, ses terapisi, ses sağlığı, ses kullanımı

## Introduction

### The Human Voice

The voice is among the most identifiable traits of the human body. With its limitless possibilities, it brings to the fore the person's characteristics of soul and intelligence. It is the main vehicle for reflecting outwardly the inner constitution of our spiritual beings. With certain color applied by our voices, we can create the sounds of words to express all of our emotions, and this manner of communicating our feelings is called speaking. The thing we call a speaking event arose from the natural and proper use of the vocal chords, the creation of the sound that connected vowels with consonants, and the adaptive relationship between them. The ability to speak is one of the most important factors in the continuation of the existence of humanity over the ages. According to Songar, "The ability to speak came into existence with the human being." (Songar, 1986, p. 71).

When speaking proved insufficient, humans succeeded in turning sound into melody by using resonance and rhythm with different profiles, some shorter and some longer. It was at that moment that song appeared. On the contrary, the eighteenth-century intellectual Rousseau said that the origin of speech and song is the same, and that speech separated from song (melody) due to the weakening of melody with language. It has even been said that song existed before speech, and that this may be understood from examples in nature (Patel, 1996). In making music, the human voice has been carried through to today as a tool in the most natural, useful, skillful, and effective manner (Uçan, 2005).

If we relate life in the world to an orchestra or a musical composition, the human voice would be this orchestra's oldest and most capable instrument and this will remain the case throughout existence. The human voice has two functions: speaking and making music. The voice can produce all the different sounds of the other musical instruments on its own, and in fact, it is more capable than the other instruments because of the power of expression given by the ability to produce language as well. While the other instruments are produced by humans, the voice is an inborn instrument of humans. In this way, the human voice is the world's most precious instrument. This instrument is not only a useful tool for communication but, at the same time, it is a mirror that reflects the human self (Kia, 2001).

### Voice Production

"The existence of the voice and speech is a function of the complex coming together of the mechanisms of the central nervous system, the pulmonary and laryngeal functions, and the actions of resonance and articulation" (Gerçeker, 2000). The voice cannot be brought about only by using the laryngeal region, as has been previously assumed. It is only with the use of all of the components of the body that the most perfect voice can be achieved. In order for the body to be able to produce a healthy vocal sound, the body posture must be straight and well-balanced, and the chest cavity, lungs and other organs related to the respiratory system must be healthy

(Burad & Çağlar, 1972). As the most detailed aspect of the human voice, the laryngeal region must be absolutely healthy and in good shape. Merely having these factors, however, will still not be enough: the resonance-producing oral cavities and even the human's hormonal balance and psychological state should be healthy in order to produce the conditions for the most desirable voice (Munzur, 2004).

**The Vocal Organs**

Within the laryngeal region, the voice is produced by certain labia. These are called the vocal chords. The sound of the voice is produced by the vibration of the vocal chords with the breath; the first tone created is called the natural voice, or the still undeveloped sound that comes to our ears (Dellwo, Huckvale, Ashby, 2007). The thing we describe as the human voice is fundamentally the sound supported by the breath that moves to the resonance cavities and then is joined by the organs of speech.

All of the sound-producing organs are almost all pertaining to the respiratory system. Only the mouth takes on the added responsibility of digestion. Aside from the responsibility of absorbing air, the lungs also take on the role of blowing the air onto the vocal chords. The voice, only with the aid of these organs can become a musical instrument. However, much one produces sound from the laryngeal region, as those who sing songs in a professional capacity can attest, it is not that simple and the other organs also play important roles in the production of a beautiful singing voice. These are:

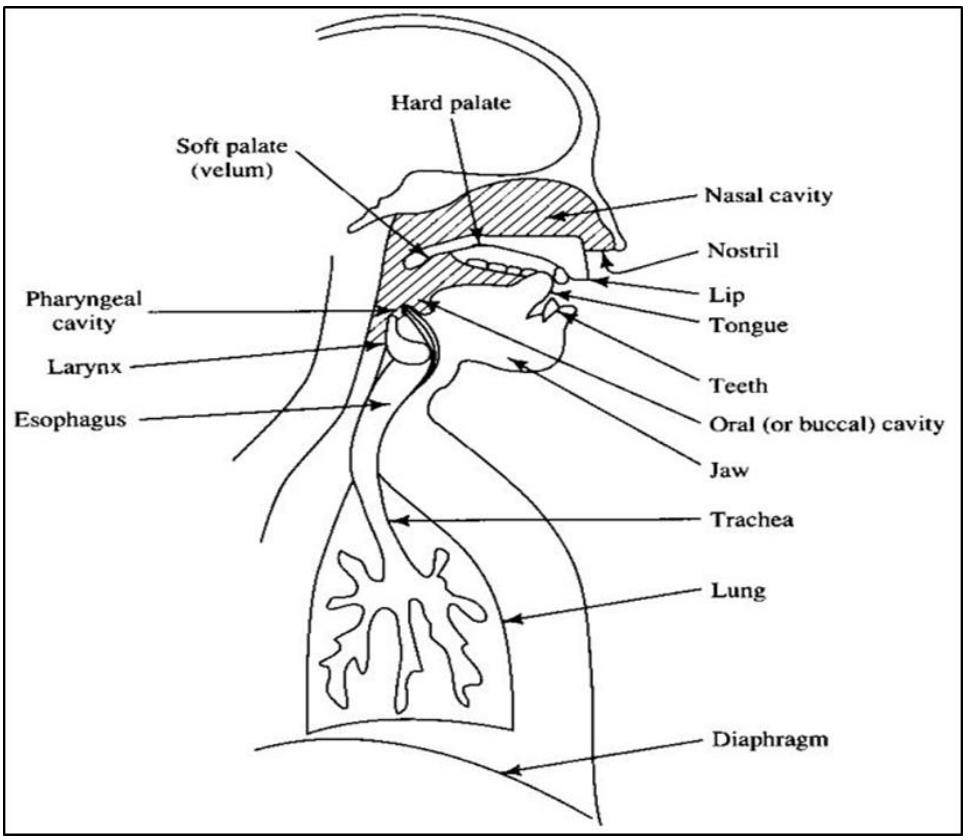
*The breathing organs:* lungs, diaphragm, chest cavity, mouth, nose

*The speech organs:* vocal chords, laryngeal organs (larynx, pharynx), tongue

*The resonance cavities:* the sinus cavities located in the face and forehead

The throat, vocal cavity, and nose are the other areas that provide support to the vocal chords. They are necessary for increasing the quality and strength of the sound produced. These regions resemble in function the body of stringed instruments. This is because the human body, like the other instruments, requires a resonating chamber in order to produce a tone. However, unlike the other instruments, the human body naturally harbors the organs already present within itself, and these regions are in medical terms referred to as the resonating chambers (Altundağ, 2008). All of these organs, shown in the table below, will only be able to produce a quality and beautiful sound with hard work and a disciplined regimen.

Table 1




(http://www.barcode.ro/tutorials/biometrics/voice.html)

## Vocal Science

The son of a famous tenor and himself an opera singer, Manuel Garcia gave up the pursuit of singing and began to teach when he lost his voice at a young age. Having educated so many students, Garcia is almost as knowledgeable about the human larynx as a doctor. However the information he acquired from medical books was insufficient and one day he procured a dentist's mirror from a medical supplies store. With one hand placing the dentist's mirror in his mouth and using a hand mirror in the other hand to get a reflection, he was able to see his own vocal chords (Radomski, 2005).

Manuel Garcia was the first person to witness first-hand the activity of the vocal chords through his discovery of what is now called the laryngeal mirror. His studies and conclusions were collected in a book published on 22 March 1855. In this way, the foundations were laid for the fields of laryngology and phoniatry. Garcia was the one who proved that the human voice was produced through the vibration of the vocal chords. Before producing a sound, the vocal chords stand apart from one

another. The sound is produced with the movement of air from the lungs. In those days, laryngologists were not very specialized in this topic and the laryngeal mirror was not successfully incorporated into the mainstream medical practice. This is because the laryngologists of that time did not think that sick people would be able to open their larynx widely (Nazarenko, 1963).

*Laryngology* is the scientific branch that examines the throat and sicknesses of the throat. *Phoniatry* examines the systems related to vocal production using medical research and clinical studies (for diagnosis and therapy). Problems that arise in the voice, speech, and swallowing also fall under the umbrella of phoniatry in American approaches, and are known as "speech pathology" (Wermke, 2001).

**Sicknesses and other factors that affect the voice**

Vocal chord nodules, vocal chord polyps, reflux, Reinke's edema (the accumulation of fat in the vocal chords), upper-respiratory tract infection, vocal chord cysts, vocal chord bleeding, laryngitis, hypothyroidism (the decrease in thyroid hormone seen in adults) , anxiety, allergies, chronic diseases, sexual hormones (Kenn & Balkissoon, 2011)

**Some types of surgery**

Especially the chest and throat surgery, sinusitis, tonsil removal, thyroid surgery, chronic bloodloss, loss of heat, vocal weakness as a result of decreased muscle. (http://www.medicalnewstoday.com/articles/188993.php)

Table 2

*Healthy Vocal Cords*

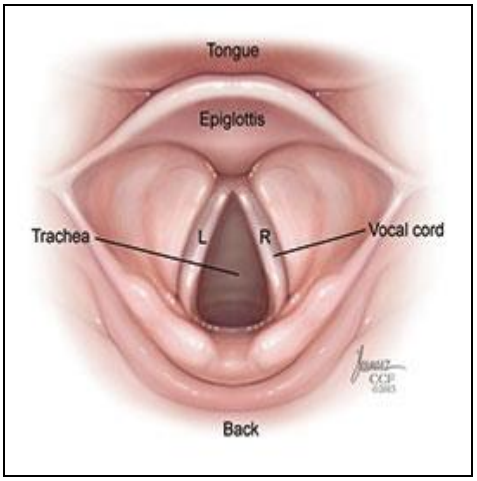



Table 3

*Vocal Cord Nodule*

Table 4

*Vocal Cord Polyp*

Table 5

*Vocal Cord Cyst*

(http://my.clevelandclinic.org/services/head-neck/diseases-conditions/hic-vocal-cord-lesions)

**Diagnosis in Vocal Therapy**

Due to the greater understanding of the makeup of the voice, new tools have offered much progress in the development of vocal therapy. With the help of new technologies, new paths have been charted in diagnosis and treatment. However much a medical expert or voice teacher can make discoveries, it is vital that vocal be assessed objectively. So, a device called "spectrograph" which analyses the frequency and volume of the vocal through signals has enabled us to get precise results. This device indicates clearly any vocal disorder and their proper treatment methods. (Ömür, 2004). Another device commonly used for diagnosis of any vocal disorder is Video-laryngo-stroboscopy (VLS) which is good at examining the motion of vocal cords and larynx (Cruz, Dedivitis, Rapoport, Guimarães, 2004).

If the major cause of the disorder is improper vocal usage, there are some modern vocal training methods for it. It will prove useful for the doctors and vocal trainers to coordinate on this issue. For the cases not requiring any medical intervention, it will be better for the patient if the vocal trainer is to deal with it at the request of the doctor. Thus, the diagnosis will be definite for the patient to start taking regular vocal therapy. Whenever the patient is informed that he is to recover from it with the help of therapy, he will be in good spirits. Along with all the technological and methodological developments, the medication should be also taken into consideration. It is vital that we take medicine consciously with the consultancy of a doctor. Otherwise, adverse results may arise. Unless vocal training and medication prove to be useful, surgical intervention may be necessary.

## Vocal Therapy and Vocal Training

Vocal training is an interdisciplinary education in a specialized field that is aimed at the voices of individuals in communicating and performing, the habits and behaviors required to be able to use voices in an effective way, and is harbored within the steps of an education founded in singing (Töreyin, 2015).

Vocal therapy is among the most effective ways used for treating the function of the voice and the variety of deformations and ailments Many techniques used in vocal therapy assure the proper functioning of the throat and the many muscle groups found in the laryngeal region, and in this way many effective options for therapy are presented for the defects in the behavior of the vocal and speech organs, and the lack or hyperfunctioning of the motor skills.

The region of vocal production is important in vocal therapy clinics. Vocal therapy clinics play a leading role in the rehabilitation of this region. These clinics are common especially in European countries and in the United States of America. Clinical studies in the incorrect use of the voice or sicknesses resulting in the misuse of the voice (for example nodules or polyps) have produced important results in voice therapy (Sulica & Behrman, 2003).

Today the general and specialized skills of treating defects in the voice and speech have become vastly developed. However, in spite of this the importance of vocal training has never waned, to the contrary, medical experts say that it is necessary to have vocal training alongside therapy and they often refer their sick patients to vocal training (Daniel, Stephen, Shelley, 2005). Without stepping outside certain worldwide standards, there are many schools, teachers, experts, and therapists that apply these techniques and teach them. Within this period language and speech therapists have acquired an important place in this profession. Aside from language and speech therapists, another group of experts that work on the behavior of these organs and exercise them strenuously is voice teachers (Behrman, 2006).

The meaning of the word “chant” in French means “the art of singing songs with the voice, the exercising of the voice for health and stability, development, and the production of stable sounds with the voice” In another aspect, the human voice is defined as a unique one to possess the art of vocal music which is the integration of technical and musical vocals (from P. Larousse & M. Robert to transfer Töreyin, 2015, p. 159). With this definition, the major objective is for the voice to acquire not only technical but also musical features.

These features can only be applicable if and only if the techniques of breathing, speaking, singing and nice and clear vocal articulation are studied and learned. The practice of vocal articulation is an essential part of technical equipment. Although a person with a symptom of dysphonia necessitates an articulation practice focused on diction during speech therapy, he requires the correct pronunciation of the verbal vocal when singing. And this forms an essential point in the acquisition of the

behaviors. It is one of the major objectives for all the behaviors acquired during this process to be applicable for the practice of the rich repertoire in the world.

When the other techniques of therapy are taken into consideration, it is seen that the subjects of vocal training, healthy vocal cords and technical capacity follow the same pattern; however, the differences in therapy methods, and vocational terminology, the presence of the subjects such as music's idiosyncratic alphabet- the note- and each language's own phonology do not sometimes enable the two groups to cooperate.

When the vocal is used unconsciously and illiberally, it causes some vocal discomfort on the side of the person addressing and annoyance on the side of the people addressed due to the mispronunciation of the words, poor vocal quality and improper eloquence style. So, vocal performance requires some intellectual background information apart from the technical equipment. Thus, the amateur vocalists are endeavoring to attend the courses given by professionals, which creates a supply and demand in a society. For this reason, the therapy methods to rehabilitate and improve vocals are to be cooperated with the vocal training doctrine. Today, these therapies are more and more preferable and commonly used. (Bloch, Gould, Hirano, 1981).

The vocal therapy techniques used for the treatment of dysphonia (a neurological disorder affecting the voice muscles in the larynx, or voice box) have been very effective. This therapy helps use of voice at a high performance and acquisition of the proper behaviors with the technical trials. The vocal training, different from a speech therapy, is a therapy method focusing on the quality of intonation. Actually, both techniques are the sub-branches of "vocalogy" focusing on vocal performance and practiced at the Clinique named as "singing and vocal therapy." The vocal therapies usually take 20 séances or more related to the patient's case (Bakır-Kınış, 2012). Time-scheduling for the patients of stuttering and dyslalia is not favorable due to the different stages of illness. Vocalogy (vocal therapy) is used for the treatment of vocal cord paralysis and vocal cord nodules and has successful results. (Boone & Farlane, 2000), (Morrison, Rammage, Nichol, Pullan, May, Salked, 1994), (Carroll, 2000)

## Vocal Training For Singers

Vocal training is required for singers. This rule is applicable for people in any branch of music who sing songs. Until today no one who has not taken vocal training has become famous or beloved on the part of society. These songs are not very difficult from melodic or technical perspectives. This kind of music retains in the mind easily and its ability to be memorized by the people has necessitated its durability. These folk and pop songs' composition for use of the throat does not require a very high level of technique. In this case, compositions with long phrases designed to display the type, technique, and quality of the voice demonstrate the necessity of vocal training for singers (Sabar, 2011). In our age, it is a great need for

academic vocal training in the performance of existing compositions, in the manner of staying true to the style, to perform without mistakes, and how to use and extend the voice (Öztoprak, 2013).

In vocal training, before anything else it is important to learn how to properly take and release a breath. For this the diaphragm breath is required. The diaphragm breath is the breath taken in relation to the lower half of the lungs. The diaphragm breath, in comparison to the other breathing techniques, is not a burden on the heart. This breath is the natural breath of the person who is lying down. While lying on our backs with our hands over our stomachs, it is easy to make this movement. This natural breath while lying down is achieved with more effort and certain techniques while standing on our feet. The acquisition of this technique is one of the foundations of vocal training (Kajander & Peper, 1998).

In the kind of music education given in voice, there are vocal training, singing education, choral education, and speaking education. According to the aims, it can be administered individually or in groups. Individual vocal training is much more productive for evaluation of voice type, what kinds of problems exist and what kind of methodology is required. Compared with individual study, choral training requires more meticulous attention. A choral conductor by not paying attention to the voices of the members can injure their voices or can ruin them through the selection of the wrong repertoire. For this reason it is important for people who sing in a chorus to take individual vocal lessons separately. Puşkova, an important name in this field who spent years in choral music and choral conducting, has the following to say on this issue: it is indispensable for musicians to receive vocal training, especially choral singers due to the demands of their branch. This is because only with proper vocal technique may choral aspects like balance in the ensemble, intonation, articulation and phrasing (musical periods) be executed in the correct manner. It is due to a lack of or incorrect vocal training that many vocal artists cannot execute some musical passages or sing in the upper registers. The importance of proper vocal training is underscored when this situation is brought into a worse condition. On the other hand, those with proper technique who can use their voices in a knowledgable way are able to apply these musical elements the way they should be with an academic manner. Another question: vocal training should not be administered by just anybody, but rather should be given by authorized people and experts (Puşkova, 2013).

**Views of Vocal Trainers**

When speaking of voice, vocal training comes to mind. Vocal training is not done for a small period of time but rather is a lifestyle. To use the voice properly necessitates living one’s life with discipline. People need to take vocal training from those whose profession it is to use their voice to sing songs. This is because many unfortunate people come to us who have experienced problems with their voices or have lost their voices completely due to improper use. We rehabilitate their voices working in tandem with voice experts in the Ankara Ibn Sina Hospital. In this respect it is a pleasing development to see the pairing of the musical and medical sciences

(Talınlı, 2013). In order to open the vocal chords to melodic and rhythmic use, to professionally produce sound coming from the diaphragm and passed through the lips, to seek vocal color, to produce pitch with the voice, and to ensure the proper level of resonance and tone in the voice, it is necessary to receive vocal training.

Vocal training is a necessary step for those who want to sing professionally. In whatever branch of the performing arts one wants to pursue a career, one is required to bring out the color and tone of the voice based on the length and width of the vocal chords. This characteristic, which is unique in each and every individual, can only be discovered through vocal training. To have proper phonetics and to eliminate the possibility of out of tune melodies, is only possible with organized and disciplined vocal training. Without receiving this education many people see damage to their voices and eventually have to seek medical attention (Puşkova, 2013).

## Conclusion

In light of the above information, anyone who use their voices in a professional capacity, whether they be doctors, lawyers, politicians, speakers, teachers, religious leaders, salesmen, actors, actresses, and singers, should use their voices in a more knowledgable and proper manner or else they may occasionally be faced with problems. If that were not enough, those who experience a decrease in their professional performance would be negatively affected by this and they will become demoralized. If we consider those who use their voices for their professions and cannot perform their duties and for this reason are unable to sustain themselves, we are faced with a disturbing picture.

It would be to the benefit of those who experience problems with their voice to begin the process of receiving vocal training, vocal therapy or other treatment methods. If not, advanced vocal problems can lead to the necessity of surgical operations and the rise of unexpected negative results. For these reasons, vocal training is extremely desirable. Those who participate in vocal training would protect themselves from the above-listed problems and would be able to perform their jobs at the highest level.

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http://my.clevelandclinic.org/services/head-neck/diseases-conditions/hic-vocal-cord-lesions

# YAZIM KURALLARI

## Genel Kurallar

Makaleler, A4 sayfa düzeninde olmalıdır. Yazılar düz metin olarak tek sütun halinde yazılmalıdır. Sayfa düzeni yapılırken kenar boşlukları **2,5 cm** olarak düzenlenmelidir. Yazı karakteri "**Times New Roman**" olmalı ve **yazılar 12 punto** büyüklüğünde **tek satır** aralığı kullanılarak iki yana yaslanmış formatta düzenlenmelidir. Başlıklar arasında iki satır aralığı bulunmalıdır.

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Makalenin başlığı 14 punto büyüklüğünde, ilk harfleri büyük olarak, koyu ve ortalanmış biçimde yazılmalı, kısa ve konu hakkında bilgi verici olmalıdır. Başlığın uzunluğu 8-16 sözcük olmalıdır.

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Aday makalede sırasıyla İngilizce Öz (Abstract) ve Türkçe Öz yer almalı. İngilizce Öz (Abstract) ve Türkçe Öz 11 punto ile sağ ve soldan birer cm girintili olarak ve iki yana yaslı (justified) biçimde yazılmalı, 200-350 sözcük uzunluğunda olmalıdır. İngilizce Öz (Abstract) ve Türkçe Öz'ün altında 4-8 sözcükten oluşan Anahtar Sözcükler (Keywords) belirtilmelidir.

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| 2 | **Sola Dayalı, Kalın, Her Sözcüğün İlk Harfi Büyük** |
| 3 | **İçeriden, kalın, ilk harfi büyük, diğerleri küçük harflerle yazılır** |
| 4 | ***içeriden, kalın, italik, tamamı küçük harflerle yazılır*** |
| 5 | *içeriden, italik, tamamı küçük harflerle yazılır* |

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Diyagram ve grafikler beyaz bir kağıt üzerine basılabilecek nitelikte olmalıdır. Her şeklin bir numarası ve alt yazısı olmalı, kaynak kullanılmış ise parantez içinde şeklin altında yazılmalıdır.

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Tablo numarası ve tablo yazısı, tablonun üstünde ve sola dayalı olarak yazılmalı; içeriği tablo numarasının yanında başlık olarak açıklanmalıdır. Tablo adı, italik ve her sözcüğün ilk harfi büyük harflerle yazılmalıdır. Tabloların sağına ya da soluna herhangi bir yazı yazılmamalıdır.

Tablolar sadece Word programındaki Tablo menüsünden faydalanılarak yapılmalıdır. Tablo içeriği 10 punto olmalı, satırların öncesinde ve sonrasında boşluk verilmeksizin ayarlanmalıdır.

Tablolarda satır ve sütun başlarındaki kategori adlandırmaları dışında; satır, sütun aralarında çizgi olmamalıdır.

**Atıfların Yazımı**
Metin içindeki atıflarda yazarın soyadı, yayının yılı ve birebir alıntı yapıldıysa sayfa numarası belirtilmelidir.

**Örnekler:**

Nothing seemed so certain as the results of the early studies (Tatt, 2001, p. 445). It was precisely this level of apparent certainty, however, which led to a number of subsequent challenges to the techniques used to process the data (Jones & Wayne, 2002, p. 879). There were a number of fairly obvious flaws in the data: consistencies and regularities that seemed most irregular, upon close scrutiny (Aarns, 2003; West, 2003, p. 457).
İki yazarlı çalışmalara atıfta bulunulduğunda her iki yazarın da soyadını yazılmalıdır:

- (Anderson & Bjorn, 2003)
- As Anderson and Bjorn (2003) illustrated in their recent study
- As recently as 2003, a prominent study (Anderson & Bjorn) illustrated

Üç, dört ya da beş yazarlı çalışmaları kaynak gösterirken sadece ilk defasında tüm yazarların soyadı verilmelidir:

- (Anderson, Myers, Wilkes, & Matthews, 2003)

Sonraki kullanımlarında ise ilk yazarın soyadından sonra "et al." yazıp, diğer yazarlar tekrarlanmamalıdır:

- (Anderson et al., 2003)

Altı ya da daha fazla yazarlı çalışmalar için “et al.” kullanılmalıdır:

- (Bell et al., 2003)

İsimsiz çalışmalar için:

- ("Recent Developments," 2004)
- (Dictionary of Tetrathalocigistic Diseases, 2004)

**Kaynakların Yazımı**

Kaynaklar alfabetik sıraya göre ve aşağıda verilen örneklere uygun olarak yazılmalıdır:

Haag, L. & Stern, E. (2003). In search of the benefits of learning Latin. *Journal of Educational Psychology*, *95*, 174–178.

Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley.

Johnson, D. W. & Johnson, R. T. (1990). Cooperative learning and achievement. In S. Sharan (Ed.), *Cooperative learning: Theory and research* (pp. 173–202). New York: Praeger.

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Manuscripts must be formatted to fit an A4 page. The manuscript text must be written in the form of a single column as plain text. While preparing the page setup, there must be 2,5 cm margins should be arranged from top, bottom, left, and right. The manuscripts must be written in "Times in Roman"; font size 12; justified; single line spacing in Microsoft Word.

There must be two line spaces between two line spaces between titles. Manuscript template is available on the JEF's web site to use by making corrections on the template.

## Title

The title of the manuscript must be written in font size 14. The title should be in initial capitalization and must be centered. The title must be short and relevant to the topic. The title must not exceed 8-16 words.

The exposed name and surname of the author(s) must be given in lowercase; author name(s) must be centered on the page. The title, name of the university and the department, the e-mail adress, and the city-country information must be marked (*) and mentionad in a footnote on the title page.

## English and TurkishAbstract

English abstract must come first. The abstract must be written in font size 11 and the text should be justified, and intended by 1cm right and left. Both English and Turkish abstract must be between 200-350 words. After the abstract, provide a minimum of 4-8 keywords.

(For the applications from different countries, preparation of Turkish abstract can be helped in case of need.)

## Chapters and Subchapters

Chapter and subchapter levels should be formatted as follows:

| Level of heading | Format |
|---|---|
| 1 | **Centered, Boldface, Uppercase and Lowercase Heading** |
| 2 | **Flush Left, Boldface, First Letter of the Every Word Uppercase, Others Lowercase Heading** |
| 3 | **Indented, boldface, only first letter uppercase, others lowercase heading** |
| 4 | ***indented, boldface, italicized, lowercase heading*** |
| 5 | *indented, italicized, lowercase heading* |

**Figures**
Diagrams and graphics must be drawn in such a way that they can be printed on a white paper. Each figure must have a number and subtitle. If any source was used, it must be stated in parenthesis below the figure.

**Tables**
The table caption and table number must be given above the table. The content of the table must be expressed in the title, next to the number. Nothing must be written to the left or right side of tables.

Tables must be formed using the "Table" menu in Microsoft Word. Table contents must be written in font size 10 and must be arranged in such a way that no space is left before or after the lines.

Lines used in the tables must be 1,5 pt at most and there must be no line between rows and columns except for in categorizations on row and column headings.

**References**
References must be given in accordance with APA (American Psychological Association) standarts. Detailed information on reference style can be found at: http://www.apastyle.org/learn/index.aspx.