NESİBE AYDIN EĞİTİM KURUMLARI
EĞİTİM VE GELECEK DERGİSİ

Yıl: 2018 Sayı: 14

NESİBE AYDIN EDUCATION INSTITUTIONS
JOURNAL OF EDUCATION AND FUTURE

Year: 2018 Issue: 14

Ankara - 2018

Eğitim ve Gelecek Dergisi **Journal of Education and Future**

Yıl: 2018 Sayı: 14 **Year: 2018 Issue: 14**

Uluslararası, disiplinlerarası ve yılda 2 kere yayımlanan hakemli bir eğitim dergisidir. Derginin yayın dili İngilizce'dir.

Sahibi:
Nesibe Aydın Eğitim Kurumları adına
Hüsamettin AYDIN

Baş Editör: Prof. Dr. Erten GÖKÇE

Editör Yardımcısı: Dr. Aliye ERDEM

Genel Yayın Koordinatörü: Şemsettin BEŞER

Kapak Tasarımı: Uğurtan DİRİK

Dizgi: Dr. Aliye ERDEM

Basım Tarihi: 25.07.2018

Adres: Nesibe Aydın Okulları Yerleşkesi
Haymana Yolu 5. km
Gölbaşı, Ankara/Türkiye

Tel: +(90) 312 498 25 25

Belgegeçer: +(90) 312 498 24 46

E-posta: jef.editor@gmail.com

Web: http://dergipark.gov.tr/jef

International, interdisciplinary and biannually published, peer-reviewed journal of education. The language of the journal is English.

Owner:
On behalf of Nesibe Aydın Education Institutions
Hüsamettin AYDIN

Editor-in-Chief: Prof. Dr. Erten GÖKÇE

Editor Assistant: Dr. Aliye ERDEM

Publication Coordinator: Şemsettin BEŞER

Cover Design: Uğurtan DİRİK

Typography: Dr. Aliye ERDEM

Publication Date: 25.07.2018

Address: Nesibe Aydın Okulları Yerleşkesi
Haymana Yolu 5. km
Gölbaşı, Ankara/Turkey

Tel: +(90) 312 498 25 25

Fax: +(90) 312 498 24 46

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Eğitim ve Gelecek Dergisi **Journal of Education and Future**

Yıl: 2018 Sayı: 14 **Yıl: 2018 Sayı: 14**

Dizinlenme / Abstracting and Indexing:

Emerging Sources Citation Index (ESCI)
TUBİTAK ULAKBİM National Index
Ani Journal Index
DOAJ Directory of Open Access Journals
ASOS Index
ProQuest Science Journals
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İÇİNDEKİLER

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JOURNAL OF EDUCATION AND FUTURE

Year: 2018 **Issue: 14**

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Nesibe Aydın Eğitim Kurumları tarafından yayımlanan *Eğitim ve Gelecek Dergisi* on dördüncü sayısında sizinle buluşuyor. Dergimizin on dördüncü sayısında yer alan çalışmaları siz değerli okurlarımıza sunuyoruz.

Teknoloji birçok alanda insanların hayatlarını kolaylaştırırken engelli bireylerin hayatında daha önemli bir yere sahip olmaktadır. **Ömer Arpacık, Engin Kurşun ve Yüksel Göktaş** tarafından hazırlanan ***"Etkileşimli Tahtanın Zihinsel Engelli Öğrencilerin Eğitiminde Yardımcı Teknoloji Olarak Kullanımı"*** başlıklı çalışmada, etkileşimli tahtanın özel eğitim uygulama okullarında kullanımının öğrencilerin katılımı ve öğretmenlerin ders işlemeleri üzerine etkisi incelenmiştir.

Öğretmenlerin eğitim teknolojilerine direnç göstermelerinden sorumlu inançlardan birisi de risk algılarıdır. Psikometrik paradigma, riskin bilgi, korku, kontrol, yıkıcı potansiyel, eşitlik, gönüllülük ve doğaya müdahale gibi birçok faktörün bir bileşimi olduğunu vurgular. **Mehmet Demirbağ ve Ahmet Kılınç** tarafından hazırlanan ***"Öğretmen Adaylarının Eğitim Teknolojileri Kullanımına Yönelik İstekliliği ve Risk Algıları: Bir İnanç Sistemi Yaklaşımı Çalışması"*** başlıklı çalışmanın amacı, risk algılarının öğretmen adaylarının eğitim teknolojilerini kullanma istekliliğini yordama gücünü anlamaktır.

Mustafa Fidan ve Meriç Tuncel tarafından hazırlanan ***"Bilişim Teknolojileri Öğretmenlerinin Ders içi Davranışlarının Örtük Program Bağlamında Değerlendirilmesi"*** başlıklı çalışmada, bilişim teknolojileri öğretmenlerinin görüşlerinden hareketle, ders içi davranışlarının ve bu davranışların ortaya çıkmasında etkili olan unsurların örtük program bağlamında değerlendirilmesi amaçlanmıştır. Araştırmada bilişim teknolojilerinin özellikle okul kültürünü benimsemede örtük programa hizmet ettiği, öğrencilerle kurulan iletişimin gizil öğrenmelerin oluşmasında etkili olduğu, öğretmenlerin mesleki yönlendirmelerinde statünün ve ekonomik getirinin ön planda olduğu tespit edilmiştir.

Çocukların bir bilgi edinmek için bildikleri ve düşündüklerinin farkında olmalarını sağlayan ve bu süreçte öğrenecekleri bilgiyi geliştiren üstbiliş farkındalığına; bir görevi yerine getirmek ve yeni sorunlar veya durumlarla karşılaşabilmek için öz yeterlik becerilerine sahip olmaları gerekir. **Kayhan Bozgün ve Serpil Pekdoğan** tarafından hazırlanan ***"Çocuklarda Üstbiliş Farkındalığının Yordayıcısı olarak Özyeterlik"*** başlıklı çalışmada, çocukların öz yeterliklerinin üstbiliş becerilerini yordayıp yordamadığını ve öz yeterlik ile üstbiliş arasındaki ilişkinin sonuçları ile kullanılan ölçüm araçlarının geçerlik ve güvenilirliği araştırılmıştır.

Ümit İzgi Onbaşılı tarafından hazırlanan ***"Suriyeli Mülteci Öğrencilerle Türk Öğrencilerin Bilim İnsanı Algılarının Karşılaştırılması: Mersin İli Örneği"*** başlıklı çalışmanın amacı, son yıllarda Suriye'den Türkiye'ye göç eden ilkokul çağındaki öğrencilerle Türk öğrencilerin bilim insanı algılarını kıyaslamaktır. Araştırma 2017-2018 eğitim öğretim yılında Mersin İli'nde bulunan bir devlet okuluna kayıtlı üçüncü ve dördüncü sınıfa devam eden Suriyeli (36) ve Türk (73) toplamda 109 öğrenciyle yürütülmüştür. Araştırmada veri

toplama aracı olarak Chambers (1983) tarafından geliştirilen "Bir Bilim İnsanı Çiz Testi" (Draw A Scientist Test-DAST) uygulanmıştır.

Bireylerin okuryazarlık becerilerinin erken yaşlardan itibaren geliştirilmesi hem akademik başarının temelini oluşturmakta hem de kişisel, sosyal, mesleki ve toplumsal hayattaki başarıların sınırlarını belirlemektedir. **Ömer Faruk Tavşanlı ve Abdullah Kaldırım** tarafından hazırlanan ***"İlkokul Öğrencilerinin Resimlerindeki Okuryazarlık Algısı"*** başlıklı çalışmanın amacı, ilkokul ikinci sınıf öğrencilerinin okuryazarlık algılarını yaptıkları resimler ve birebir gerçekleştirilen görüşmeler aracılığıyla ortaya çıkarmaktır. Araştırmanın verilerini; öğrencilerin okuryazarlık konusunda yapmış oldukları resimler, resimler hakkında gerçekleştirilen yapılandırılmamış görüşmeler ve resimlerden bağımsız olarak okuryazarlık algıları hakkında yapılan yarı yapılandırılmış görüşmeler oluşturmaktadır.

Teknolojik alanda yaşanan baş döndürücü gelişmeler, hem insan yaşamını derinden etkilemekte hem de öğrenme ve öğretme süreçlerine farklı bir bakış açısı kazandırmaktadır. **Namudar İzzet Kurbanoğlu ve Serhat Arslan** tarafından hazırlanan ***"Lise Öğrencilerinin E-öğrenme Tutumları ile İşbirlikçi Öğrenme Tutumları arasındaki İlişkinin Belirlenmesi"*** başlıklı çalışmada lise öğrencilerinin kendi kendine öğrenme sürecinde, e-öğrenmeye karşı tutumları ile işbirlikçi öğrenmeye karşı tutumları arasında anlamlı bir ilişkinin olup olmadığının belirlenmesi amaçlanmıştır.

İngilizce öğrenme motivasyonunun öğrencinin sınıf içi performansı, genel ve yılsonu başarısı ve ders devamlılığı üzerinde yadsınamaz bir rolü bulunmaktadır. **Pınar Yüncü Kurt ve Hüseyin Kurt** tarafından hazırlanan ***"Öğrencileri İngilizce Öğrenmeye Motive Eden Öğretici Etkinlikler"*** başlıklı çalışmanın amacı, öğrencileri İngilizce öğrenmeye en çok hangi öğretici etkinliklerin motive ettiğini bulmaktır. Çalışmada 30 öğrencinin on hafta boyunca yapılan sınıf içi etkinliklere ve öğretmen tutum ve davranışlarına yönelik yaptıkları yorumlar toplanmış ve değerlendirilmiştir

Mustafa Akdağ ve Cem Şenol tarafından hazırlanan ***"Bilim ve Sanat Merkezlerinde Öğretmen Olma Olgusu: Nitel Bir Fenomenolojik Araştırma"*** başlıklı çalışmanın amacı "Bilim ve Sanat Merkezlerinde öğretmen olma" olgusunu incelemektir. Nitel araştırma yaklaşımlarından fenomenolojik desende tasarlanan araştırmanın çalışma grubunu 2015-2016 eğitim-öğretim yılında Türkiye'nin Doğu Anadolu Bölgesindeki üç farklı şehrinde bulunan Bilim ve Sanat Merkezlerinden seçilen 13 öğretmen oluşturmaktadır.

Eylem Yalçın İncik tarafından hazırlanan ***"Öğretmenlerin Eğitim İnançları ile Öğretme-Öğrenme Anlayışları arasındaki İlişki: Bir Karma Yöntem Çalışması"*** başlıklı çalışmada öğretmenlerin eğitim inançları ile öğretme-öğrenme yaklaşımları arasında anlamlı ilişkiler olduğu belirlenmiştir. Araştırmada, öğretmenlerin eğitim inançlarının yapılandırmacı ve geleneksel öğretme-öğrenme anlayışlarının anlamlı yordayıcısı olduğu belirlenmiştir.

Öğretmen istihdamı, bir ülkenin eğitim sisteminde eğitim kalitesinin belirlenmesi ve değerlendirilmesi açısından önem taşımaktadır. Öğretmen istihdamına ilişkin politikalar,

öğretmen yetiştirme sürecinin belirleyicileri olmalarının yanı sıra eğitimde birçok değişkeni etkilemektedir. **Ece Özdoğan Özbal ve Erten Gökçe** tarafından hazırlanan ***"Öğretmenlerin Eğitim İnançları ile Öğretme-Öğrenme Anlayışları arasındaki İlişki: Bir Karma Yöntem Çalışması"*** başlıklı çalışmada, Türkiye ve bazı ülkelerde öğretmen istihdam süreçlerinin incelenmesi ve öğretmen istihdam süreçleri ile eğitim kalitesi arasındaki ilişkinin ortaya konulması amaçlanmıştır. Araştırmanın sonunda öğretmen istihdam süreçlerinin, mezun öğretmen adaylarının yerleştirilmesi ve öğretmen maaşları gibi istihdam süreçlerinin önem taşıdığı ve eğitim kalitesini etkilediği sonucuna ulaşılmıştır.

Necdet Aykaç tarafından hazırlanan ***"Amerika'da Hizmetiçi Eğitimde Uygulanan Mesleki Gelişim Uygulamasının İncelenmesi ve Türkiye'ye İlişkin Öneriler Kent Education Excellence Partnersip (KEEP) Örneği"*** başlıklı çalışma nitel bir durum çalışmasıdır. Çalışmada, Mesleki Gelişim Okulları uygulamasının bir örneği olan Kent State Excellence Partnership (KEEP) uygulamasına ilişkin olarak programın ana unsurlarından olan iki öğretim üyesi ve uygulamaya katılan 17 öğretmenin görüşleri alınmıştır. Araştırma sonucunda, öğretim üyeleri, mesleki gelişim okulu uygulamaları ile öğretmenlerin mesleki gelişimi ve öğrenmeleri için öğretmenlerin bir araya geldiklerini, neyi nasıl öğrenme istediklerine ilişkin olarak kararlarının kendileri tarafından verildiğini, karşılıklı etkileşime dayalı bir öğrenme sürecinin oluştuğunu belirtmişlerdir.

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 published by Nesibe Aydın Education Institutions, meets you with the fourteenth issue. We present the studies in the fourteenth issue of JEF to our valuable readers.

Technology facilitates the lives of people in many areas and has a more important place in the lives of people with disabilities. In the article titled ***"Using Interactive Whiteboards as an Assistive Technology for Students with Intellectual Disability"***, which is prepared by **Ömer Arpacık, Engin Kurşun and Yüksel Göktaş,** it is aimed to investigate the impact of integrating interactive whiteboard (IWB) on students' participation and teachers' teaching practices in a special education school.

One of the beliefs that is responsible for teachers' resistance to educational technologies is risk perceptions. The psychometric paradigm emphasizes that risk is a combination of many factors such as knowledge, dread, control, catastrophic potential, equity, voluntariness and tamper with the nature. In the article titled ***"Preservice Teachers' Risk Perceptions and Willingness to Use Educational Technologies: A Belief System Approach"***, which is prepared by **Mehmet Demirbağ and Ahmet Kılınç**, it is aimed to understand the predictive power of risk perceptions for pre-service teachers' willingness to use educational technologies.

In the article titled ***"Evaluation of Information Technologies Teachers' in-class Behaviors in the Context of Hidden Curriculum"***, which is prepared by **Mustafa Fidan and Meriç Tuncel,** it is aimed to evaluate the in-class behaviors of information technologies teachers and the factors that lead to those behaviors in the context of hidden curriculum on the basis of the opinions of information technologies teachers. It was understood that information technologies served to the hidden curriculum especially in terms of adoption of school culture, interaction with students was effective in occurance of hidden learnings, and status and economical advantages of a profession were of primary importance in teachers' professional guidance.

Metacognition awareness that allow children to become aware of what they know and think to learn a knowledge and build on the knowledge they will learn in this process; they need to be self-efficacy in order to accomplish a task and to be able to come up with new problems or situations. In the article titled ***"The Self-Efficacy as Predictors of the Metacognition Awareness in Children"***, which is prepared by **Kayhan Bozgün and Serpil Pekdoğan** it is aimed to determine whether self-efficacy in children predicts metacognition awareness, and also the results of the relationship between self-efficacy and metacognition and the validity and reliability of the measurement tools used are included in the study.

In the article titled ***"The Comparison of Scientist Perceptions of Syrian Refugee Students and Turkish Students: Sample of Mersin Province"***, which is prepared by **Ümit İzgi Onbaşılı**, it is aimed to compare scientist perception of students who migrated from Syria to Turkey in recent years in primary school age and Turkish students. The study was

conducted with a total of 109 students as Syrian (36) and Turkish (73) attending a public school in third and fourth grades in Mersin Province in 2017-2018 academic year. In the research, Draw a Scientist Test-DAST which were developed by Chambers (1983) was applied as data collection tool.

Developing the individual's literacy skills at early ages both creates the foundation of academic achievement and determines the borders of the achievement in personal, social, professional and social life. In the article titled ***"Perceptions about Literacy in Primary School Student Drawings"***, which is prepared by **Ömer Faruk Tavşanlı and Abdullah Kaldırım**, it is aimed to reveal the perceptions of primary school second grade students about literacy through their drawings and face to face interviews. The research data includes student drawings about literacy, unstructured interviews about the drawings and semi-structured interviews independent from the drawings about literacy perceptions.

Pedagogical and technological improvements arousing in the late years both affect the human life deeply and most importantly learning and teaching fields. In the article titled **"Investigation of the Relationship between *E-Learning and Cooperative Learning Attitudes of High School Students"***, which is prepared by **Namudar İzzet Kurbanoğlu and Serhat Arslan**, it is aimed to investigate the relationships between e-learning and cooperative learning attitudes of the high school students.

Motivation to learn English plays a curial role in students' performance, achievement and attendance. In the article titled ***"Instructional Practices that Motivate Students to Learn English"***, which is prepared by **Pınar Yüncü Kurt and Hüseyin Kurt**, it is aimed to find out the instructional practices that motivate students to learn English most. Comments from 30 students were collected in ten weeks and analyzed.

In the article titled ***"The Case of Being a Teacher at Science and Art Centers: A Phenomenological Quantitative Research"***, which is prepared by **Mustafa Akdağ and Cem Şenol**, it is aimed to examine "the case of being a teacher in Science and Art Centers". 13 teachers selected from Science and Art Centers in three different cities in the Eastern Anatolia region of Turkey in the 2015-2016 academic year constitute the study group of this research designed a phenomenological research design of Qualitative research approach.

In the article titled ***"The Relationship between Teachers' Educational Beliefs and Teaching-Learning Conceptions: A Mixed Method Study"***, which is prepared by **Eylem Yalçın İncik**, it is aimed to determine the relationship between teachers' education beliefs and their teaching-learning conceptions. It has been determined in the research that there is a significant relationship between teachers' educational beliefs and teaching-learning conceptions. In the study, it was determined that teachers' educational beliefs were a significant predictor of constructivist and traditional teaching-learning conceptions.

Teacher employment is important in terms of determining and assessing the quality of education in the educational system of a country. Policies on teacher employment are both determinants of teacher training process and affect many variables in education. In the article

titled ***"An Examination of Teacher Employment Policies in Turkey and Different Countries"***, which is prepared by **Ece Özdoğan Özbal and Erten Gökçe**, it is aimed to examine the process of teacher employment in Turkey and some countries and to reveal the relationship between teacher employment processes and educational quality. The research has reached the conclusion that teacher employment processes and teacher salaries are important and affect the educational quality.

The article titled ***"Investigation of the In-service Teacher Training Programs in the United States and Recommendations for Turkey: The Case of Kent Education Excellence Partnership (KEEP)"***, which is prepared by **Necdet Aykaç**, is a qualitative case study. Being an example of the professional development school applications, Kent State Excellence Partnership (KEEP) program was evaluated by seeking the opinions of two faculty members who are among the main elements of the program and of 17 teachers having participated in the program. The findings of the study revealed that the faculty members are of the opinion that teachers come together for professional development and learning within the context of the professional development school applications, that participating teachers make their own decisions about what they want to learn and that they learn in a learning process based on reciprocal interaction.

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

Journal of Education and Future
year: 2018, issue: 14, 1-14

Using Interactive Whiteboards as an Assistive Technology for Students with Intellectual Disability*

Ömer Arpacık** **Engin Kurşun***** **Yüksel Göktaş******

Abstract

The aim of this study is to investigate the impact of integrating interactive whiteboard (IWB) on students' participation and teachers' teaching practices in a special education school. The case study method was employed in this study. The study was carried out in a special education school with four students two of whom are mentally disabled, one with Down's syndrome and one with autism and two special education teachers. Data was collected through about 20 hours observations in natural settings of a special education school and a number of semi-structured interviews with two teachers during 6 weeks study period. Content analysis method was administrated in data analysis. As a result of the research, various findings were obtained about the quality of the used visuals, the use of touch screen, the students gainig new behaviors, students with different characteristics showing obsessive behaviours, group work and class control. The results show that the use of interactive whiteboards is advantageous in some ways such as having a large screen, supporting multi-media and interaction. In addition, students did not have any difficulties using the IWB. Repeating a process hundreds of times and adaptability of materials for the needs of each student were the important findings which rationalize integrating IWB in special education settings. However, teachers had some trouble with class management at the beginning, but they were able to overcome these problems over time.

Keywords: intellectually disability, assistive technology, special education, interactive whiteboard

* This study is derived from the first author's PhD dissertation.

** Assist. Prof. Dr., Ataturk University, Faculty of Education, Department of Computer Education and Instructional Technology, Erzurum, Turkey. E-mail: omerarpacik@gmail.com

*** Assoc. Prof. Dr., Ataturk University, Faculty of Education, Department of Computer Education and Instructional Technology, Erzurum, Turkey. E-mail: enginkursun@gmail.com

**** Prof. Dr., Ataturk University, Faculty of Education, Department of Computer Education and Instructional Technology, Erzurum, Turkey. E-mail: yukselgoktas@atauni.edu.tr

Etkileşimli Tahtanın Zihinsel Engelli Öğrencilerin Eğitiminde Yardımcı Teknoloji Olarak Kullanımı

Öz

Teknoloji birçok alanda insanların hayatlarını kolaylaştırırken engelli bireylerin hayatında daha önemli bir yere sahip olmaktadır. Bu çalışmanın amacı, etkileşimli tahtanın özel eğitim uygulama okullarında kullanımının öğrencilerin katılımı ve öğretmenlerin ders işlemeleri üzerine etkisini incelemektir. Çalışmada durum çalışması yöntemi kullanılmıştır. Çalışma bir özel eğitim uygulama okulunda bulunan ikisi orta derecede zihinsel engelli, biri down sendromlu ve biri otistik olmak üzere dört öğrenci ve iki özel eğitim öğretmeni ile gerçekleştirilmiştir. Veriler, özel eğitim okulunda 6 hafta boyunca toplamda 20 saat öğrencilerin gözlemlenmesi ve iki öğretmenle yapılan yarı yapılandırılmış görüşmelerden elde edilmiştir. Veri analizinde içerik analizi yöntemi kullanılmıştır. Araştırma sonucunda kullanılan görsellerin kalitesi, dokunmatik ekran kullanımı, öğrencilerin yeni davranışlar kazanması, farklı özelliklere sahip öğrencilerin obsesif davranışlar göstermesi, grup çalışması, sınıf kontrolü ile ilgili çeşitli bulgular elde edilmiştir. Çalışmada öğrencilerin etkileşimli olarak materyali kullanabilmesi, etkileşimli tahtanın çoklu ortam nesnelerini desteklemesi ve ekranın büyük olması avantaj olarak görülmüştür. Bunun yanı sıra, öğrencilerin etkileşimli tahtayı kullanmalarında herhangi bir zorluk yaşamadıklarını tepsit edilmiştir. Ayrıca, etkileşimli tahtanın kullanılması ile öğretimin defalarca tekrarlanabilmesi ve materyallerin her öğrencinin ihtiyaçları için uyarlanabilmesi, çalışmadan elde edilen önemli bulgulardır. Bununla beraber, öğretmenlerin başlangıçta sınıf yönetimi ile ilgili bazı sorunlar yaşadığı, ancak bu sorunları zamanla aşılabileceği görülmüştür.

Anahtar Sözcükler: Zihinsel engel, yardımcı teknolojiler, özel eğitim, etkileşimli tahta

Introduction

The impact of information and communication technologies (ICT) is affecting all areas of society, including education, healthcare, transportation, communications, security and food (Stahl, Rogerson, & Wakunuma, 2009). It directly or indirectly improves the quality of lives of individuals in a wide variety of ways. However, the majority of these technologies are developed for individuals without disabilities and they do not provide any benefits for individuals with different disabilities (Williams & Nicholas, 2006; Yıldız, 2010). Also, technologies for individuals with disabilities are not being developed at the same rate as those for individuals without disabilities (Davies, Stock, & Wehmeyer, 2004). Considering 12%of the world's population lives with some form of disability, the importance of technologies specifically developed for these people is clearly apparent (World Report on Disability, 2011).

As mention below, although the technology has very significant role in individuals with disability, developing technologies for these people is not enough. But, they can use technology in every stage in their life and that facilitate their daily routines. Technologies used to facilitate the lives of individuals with disabilities are named as assistive technologies. In other words, any object, equipment or product used to increase, maintain and improve the functional capability of individuals with disabilities are defined as assistive technologies (Braddock, Rizzolo, Thompson, & Bell, 2004). Some of the assistive technologies that people with disabilities use in different activities in their daily lives, are: computers, tablets, mobile devices, electrical or manual wheelchairs, canes, walkers and standing tools, screen readers, hearing aids, navigation assistance, wearable technologies etc.

The significant facilitate of assistive technology is used them in educational process of individual with intellectual disabilities. People with intellectual disabilities are characterized by significantly impaired intellectual functioning and behaviors (Braddock et al., 2004). Two main problems for intellectually disabled people are the fact that they forget very quickly and learn very difficult (Rezaiyan, Mohammadi, & Fallah, 2007). This might be caused by some difficulties encountered in information processing (Lopresti, Bodine, & Lewis, 2008). ICT increases motivation when properly used in the educational system, provides forindividual learning and new teaching approaches, increases the productivity ofteachers and allows students to gain new skills required by technology in the information age(Roblyer & Edwards, 2000). The use of technology is very important for education, particularly forindividuals with disabilities (Williams & Nicholas, 2006) because technologies can provide better learning environments for such people through their inclusion in school classrooms(Yıldız, 2010). In many studies, it has been seen that the use of assistive technologies has positive impacts on the learning activities of people with intellectual disabilities (Jeffs, Behrmann, & Bannan-Ritland, 2006; Mosito, Warnick, & Esambe, 2017; Rose, Hasselbring, Stahl, & Zabala, 2005; Twyman & Tindal, 2006; Wiley, Cameron, Gulati, & Hogg, 2016).

This study has been conducted as a response to the fact that less technology is used at schools for special education and, as can be seen in the literature as mention below, the use of technology is very important for students with intellectual disabilities. Therefore, the use of IWB in theclassroom of students with intellectual disabilities at a special education school wasinvestigated in terms of students' participation and effects of IWBon special education teachers' teaching practices. IWB increases participation and academic engagement for all students via multimedia ability, motivation, efficacy etc (Whitby, Leininger, & Grillo, 2012). Also IWB increase the interactivity of students with disability, provides interaction, instant feedback, visuals and audios. And IWB allows using specific content for each student (Allsopp et al., 2012).

This study focuses on the impact of courses assisted by multi-media materials presented through IWBs on the education of intellectually disabled students. Our particular concerns are with their impact on students' participation and teachers' teaching practices in the classroom.

Method

Overview

For this study, the case study method, which is one of the qualitative research design, waspreferred. The case studyis a method of research using a case in detail when there are no certain boundaries between the case and content under real-life conditions (Yin, 1984, p18).This studycan also be regarded as a case study since students and teachers are examined in their real environments, and data were collected from multiple sources such as interviews with teachers, video recordings and students' observations.

Participants

The study was conducted on 4 students, comprising 3 males and one female, and two special education teachers at a school for special education in a city in the east of Turkey. These students were selected through the purposive sampling method. One of the students has Down's Syndrome, two of them have moderate intellectual disabilities and the remaining one hasautism. The student with Down's Syndrome is 11 years old, the student with autistic disorder is nine years old and the other two students with intellectual disabilities are 12 and 13 years old. The teachers have computer skills, whereas the students do not have any computerskills.

Data Collection Tools and Data Analysis

Data were collected through observations and interviews. Observation and interview scheduleswere prepared based on research questions by researchers. Peers and expert's opinions were gathered and pilot study for these schedules were conducted. Then, necessary changes have been made in line with their feedbacks and pilot study.

Interviews were conducted with teachers before, during and after implementation of the study. One of the researchers carried out observations for 20 hours over 6 weeks while IWB being used in the classrooms. These lessons were captured by video recorder. With the data obtained, content analysis was performed by creating a framework from the aspects that fall within the research questions, observations and interviews. Then, data were brought together in a meaningful and logical manner according to the thematic framework. For the validity and reliability of the data collection and analysis, peer-reviews were carried out and all interviews and observations were recorded.

Process

Before the study, the school administration was consulted and the classroom to be studied was selected. All necessary permissions from the authorities were obtained. The classroom selected was examined and the dimensions of the classroom were checked to see whether an interactive whiteboard could be installed. The IWB was brought to the classroom four months before the start date of the study. In this way, the effect of the innovation brought by a new technology was reduced.

After installing the IWB, teachers were asked to choose a subjectwhich students did not have any idea about. They chose the subject of teaching animal names, and practice activities on this topic were carried out on the IWBover a period of 6 weeks, in an orderly manner. In thisperiod, practice took place over a total of 20 class hours, except for some holidays and days when a required number of students were not able to attend the class. These lessons were treated as teaching and observation sessions. Relevant concepts were taught and evaluations were done to see whether students had learnt the name of the animal taught in the previous session. In monitoring sessions, conducted after 1, 2 and 4 weeks following the teaching sessions, it was concludedin fact that the students did not learn.

First step of the process in teaching sessions was that the teacher showed an animal in the center of the screen and tought the name of the animal, for example dog (Figure 1). Then teacher selected the first activity, which included the dog with another animal. Then the teacher asked to student which was the dog and wanted him to show the dog (Figure 2). The second, third, fourth and fifth activities were similar to the first activity but with different

animals and in different places. After that process if student answered correctly four of five in minimum, teacher went on teaching the next animal.

Figure 1. Look and tell.

Figure 2. Which is the dog, show.

Findings

This research investigated the impact of IWB firstly on (1) students' participation in the classroom, and (2) teachers' teaching practices.

Impact on Students Participation

With regard to the impact on students, they did not experience any problems using the IWB. They were able to touch most areas of the IWB, except for the very top, and they didn't experience any difficulties in doing so.

The teachers stated that students need to have skills in the use of IWBs, and intellectually disabled students have limited skills compared to their peers. For example, it has been observed that students with autism are very distracted and they respond to the command 'look at me'only after it is repeated many times. Teachers have stated that these students should have been given some simple instructions in advance.

> *Students need to have some certain skills before working with the IWB. Students 1 showed a little ability. He was able to acquire the skill after carrying out practice exercises on the IWB (Teacher 1).*

Teachers also reported that students who did not have any pre-skills were able to acquire the basic presentation skills needed to use the IWB.

Visual quality, durability and multimedia

Teachers have indicated that largerand better quality visuals make teaching more effective compared to traditional teaching materials for these students. They assert also that assistive multimedia tools such as audio and video files, as well as animations, are advantages brought by technology to students with disabilities. For example, teaching how to identify an animal by its sound, picture and video would increase the motivation of students and increase the retention of the taught content, a result which cannot be achieved by traditional learning materials.

> *The Ministry of Educationdoes not provide visual and tactile materials so we create them ourselves. For example, we develop cards to teach them the difference between short and tall. However, the quality of education is quite poor when materials of this kind are used. With a IWB in the classroom, we would add colors, zoom in and zoom out on the picture and we would be able to have more effective teaching materials. (Teacher 1)*

They have said that they use materials from thick cardboard because traditional materials are being damaged by students. Therefore, IWB seem advantageous due to the absence of these problems.

> *We create materials from thick cardboard for students who ripup other materials (Teacher 1).*

The fact that IWBs are big is an advantage for students in terms of visual quality. The traditional materials used in the classroom are usually the size of a card that can be held in one hand. However, students can see these materials in much larger sizes on the IWB. It has been said that this makes it much easier for students to apprehendan object.

> *It drew the attention of Student 4 visually. It positively affected Student 4 and Student 3. (Teacher 1)*

Physical touchability

IWB have some visual advantages as well as some disadvantages. For example, a negative point that teachers emphasized is that students cannot grasp and touch the material that is being taught. They stated that in traditional teaching the object being taught can be presented as a physical teaching material, in three dimensions, and students can touch and examine it in whatever way they like. Therefore, they suggested that, before IWB are used in the classroom, traditional teaching methods should be used first.

> *The student was not able to touch the material being taught. When we used cards and Lego, students were able to touch and examine the materials being taught. We use pictures after teaching the objects in this way (Teacher 2).*

On the other hand, when we asked teachers whether they have these materials available in school, they said they do not have them.

According to the interviews, giving students the opportunity to touch the IWB while they are learning a new object or concept is considered advantageous. One of the special education experts suggested that students use their motor skills when they touch the IWB and interacting with objects is more effective compared to just looking at the objects displayed on the IWB. It should be noted also that experts interviewed while developing content prior to the study agreed with this suggestion.

> *Cards are more cognitive; with these technologies, more motor skills are required to be used (Teacher 1).*

New behaviors

Teachers stated that students gained new behaviors after using the IWB in the classroom. These behaviors are the ones related to how students should stand in front of the IWB. Students used to exhibit different behaviors in front of the IWB; however, they have learnt how to behave in front of the IWB and to follow the directives of the teachers.

> *Students gained new behaviors such as waiting with their hands at their sides while they are waiting in front of the IWB. (Teacher 1)*

According to teachers, one student who used to talk a lot during classeshas become quieter in courses conducted with the IWB. This is confirmed in the video recording taken during the classes, where it can be seen that the same student seems to be unusually quiet, as reported by the teachers.

> *Student 2 used to be a very chatty and noisy child. However, he made little noise when we performed the class with anIWB. (Teacher 1)*

According to the observations, a student who used to be very active and a disturbing influence during the class becamemuch calmer and gave his attention to the IWB in the lessons.

Group training

Difficulties experienced in group training are considered to be one of the disadvantages of IWBs. Teachers lost their control over the classroom when they dealt with one student on the IWB since they couldn't maintain their eye contact with the others. These students do not follow directives such as 'be quiet, stop, don't do it' as their peers with no disabilities do. As a result, teachers experienced some problems in maintaining control of the class.

> *Since we work with students one at a time, the remaining students stay behind. (Teacher 1)*

However, teachers stated that group training alsohas some advantages and they achieved some gains in these studies that they cannot achieve by working with students one to one. For example, other students often learn something by latent learning when the teacher is working with another student.

> *Students learn by latent learning when I teach something to another student. (Teacher1).*

Differences of students in their obsessive behaviors

Another finding of the study is that students with different characteristics react differently to the content presented on the IWB. Teachers indicated that students with autism, Down's Syndrome and intellectual disorders react differently to the sounds and effects in the interactive teaching sessions.

> *In the sessions, different things such as a red light drew the attention of students with autism. In fact, different things may attract the attention of students in regular teaching sessions as well. (Teacher 1)*

These behaviors mentioned by teachers are captured in the video recordings. A student with autism was interested in the power cord of the IWB instead of answering the question asked by the teacher. In another recording, the same student touched the red power light under the IWB and focused on that.

It canbe seen that the student with Down's Syndrome exhibited a different kind of obsessive behavior. The lion is located on the left when the teacher describes the image in the first activity. It is located on the right side in the second activity. In the first activity, the student was able to touch the lion on the left correctly and some effects immediately appeared. In the second activity, the lion was placed on the right side and the student was asked to touch the lion. However, he expected the effects to appear after touching the left side, so he touched the dog placed on the left side of the IWB rather than touching the lion and waited for the effects to show (Figure 2).

> *People with autistic disorders can be obsessed with certain things. For example, student 3 (with Down's Syndrome) wants to touch the IWB all the time and waits for stars to come out and hear their sounds. It is expected to see such behavior in children with autism, but it does not happen all the time. It may be very effective in one, while it may not be very effective in another one (Teacher 2).*

As can be seen in Figure 2, the student is asked to indicate the lion placed on the right. However, he is indicating and touching the left side of the IWB and waits for the effects to be displayed, because the lion was placed on the left side in the previous practices and the student expects to see the effects and hear the sound when he/she touches the left side of the IWB.

Also, teachers stated that not all the students with the same kind of disability exhibit the same behaviors, due to individual differences. Students may react differently even if they have the same disorder. Two students with autism or intellectual disorder may react differently even though they have the same diagnosis.

> *We cannot claim that all autistics exhibit problematic behaviors with this IWB. It may have positive impacts on one, while another exhibits obsessed behaviors and the next does not exhibit these behaviors. (Teacher 2)*

However, when we watched the video recordings once again, we saw that they exhibit obsessed behaviors occasionally but not all the time. Students are expected over time to adapt better on and focus better on the subjects being taught.

Designing the classroom

Teachers stated that classrooms should be designed in accordance with the characteristics of the students, and that objects distracting their attention should be removed from the environment. Any object can distract students, such as the power cable and power light of the IWBas described before. Removing distractingobjects and taking students into

consideration in designing the classroom can reduce the problems encountered during the learning and teaching process.

> *Classrooms should be well designed by knowing the students very well. For example, a student can be obsessed about the trash and he/she can be distracted. (Teacher 1)*

For example, a student with autism can become obsessed with a teacher's watch duringclass. In this situation the teacher responded by putting the watch into a cupboard out of view and continued with the class. However, one student opened the cupboard and took the watch while one of his friends was working at the board. From these examples, it has seen that some problems are not related to the actual use of theIWB and classroom conditions should be kept as simple as possible, even though traditional teaching methods are being used.

Teachers stated that these problems are not encountered only in relation to the IWB.They are experienced in traditional teaching sessions also, as these students are different to the normal student profile.

> *These are not normal kids, so these problems will be eventually encountered. We experience various problems in traditional teaching activities too. For example, they rip the material out and leave as if nothing has happened. (Teacher 2)*

Another issue mentioned by teachers is that students improve their technological skills by using the IWB. They say that students became more interested in other technologies after using the IWB and they tried to use other technological devices too.

> *For example, Student 1, who was one of our very problematic students, was not able to establish eye contact. He showed more interest in electronic devices after using the IWB. He unlocked the phone. It may be latent learning (A teacher, who was not included in the sample, but participated during the interview).*

Impact on Teaching Practice

As a result of the study, it was observed that teachers showed an intense interest in the IWB. The other teachers at school also wanted to use this technology in their classrooms and indicated that it would be very beneficial for the process of teaching and learning.

According to pre-interviews, teachers think that the use of IWB will give very positive results. However, they stated that they did not get all the benefits they were expecting to have prior to the study, due to some problems and limitations encountered. Theysaid that they experienced some problems at the beginning due to the fact they were using a new technology, they did not have sufficient information on how to use the boards effectively and students were exhibiting problematic behaviors.

> *At first, it wasthought that it would be very effective. Butas we could not keep others under control while dealing with one studentatthe board, problematic behaviors were encountered (Teacher 1).*

But these problems were overcome in the following weeks. They get used to IWB for a while. Some of the teachers' opinions on this issue are as follows:

> *It can be used for special education, and its disadvantages can be reduced over a certain time period. (Teacher 1)*

> *We get used to this technology after using it for a while and it would be great for students. (Teacher 1)*

Class control

In the first days of the project, teachers presented the concept to be taught on the IWB at the beginning of the course. Then, they conducted individual activities with each student about the concept of the day. They hadsometroublekeepingthe other students under control while doing activities with individualstudents. They hadtointerrupt these activities to keep the other students under control. However, as there are two teachers in the classroom for

special education, such problems werenot encountered. Also, the problematic behavior of the students was reduced in the following weeks and they waited more quietly.

> *There was a difference between the first and last lesson. Students were used to walking around, but they changed this behavior in the viewing sessions. Students learned how to react. Their learning process has become much easier. (Teacher 1)*

In this respect, although teachers initially stated that it would be difficult to maintain good classroom management, they were able to overcome this issue after a while.

> *Teachers can overcome negative behavior over time through their own skills. As a result of the project, students' performance levels were improved. (Teacher 1)*

Workload for teachers

Although teachers were expecting IWBs to be very effective, they experienced some difficulties while using the boards.

> *There are some advantages for sure, but I do not agree that the teachers' job will be much easier. (Teacher 1)*

> *In fact, it doesn't make our jobs easier. It makes it more difficult. It may be easier when we get used to it. (Teacher 2)*

From the interviews held with teachers, it was evident that these negativities could be eliminated over time. AsIWBs are new technologies, teachers adapt to them over time and they can be used more widely and effectively.

> *I have been teaching using traditional teaching methods for 4 years. Students get used to this technology in this time. This is new to them. It would be great for them if we were able to use it for 2-3 years. (Teacher 1)*

Even though teachers experienced some problems while using IWBs in the classrooms in their first classes, they stated that this technology could be used for students who need special education. Teachers were able to carry out teaching practice in only one subject within a period of only two months. According to teachers, the use of IWBs can be broadened by creating content in other subjects. In addition, the disadvantages of the boards can be minimized over time.

> *We drew the attention of all the children to the target behavior. It was tough at first because of their problematic behaviors. However, in the maintenance sessions, we have seen that the interactive white board could be used effectively and usefully for students. (Teacher 1)*

> *I think they can be used in special education. Their disadvantages can be minimized after a while. (Teacher 1)*

Other activities with iwb

Teachers also indicated that they have used the IWB in a variety of activities out of the scope of the project. The board has provided a different standpoint for students and teachers. For example, by connecting to the internet, they have watched cartoons on the board as a reward for students.

> *We used it to write, read, and watch videos as well as to write letters. (Teacher 2)*

> *We used the board for animations and watched cartoons for socialization of the kids. They see cartoon characters on the board. We allowed them to watch cartoons as a reward. (Teacher 1)*

Both teachers and administrators were interested in the IWB. Teachers wanted to use the IWB in their classrooms.

> *Other teachers in school want to spread this technology to all classrooms so that they can benefit from our experience. We will even give a seminar on this subject. They are positive about this. (Teacher 1)*

Discussion

Impact on Students Participation

Courses held with IWBs allowed students to actively participate and this is considered to be an advantage by classroom teachers. In the literature, it is indicated that students with intellectual disabilities learn better when they actively participate in a course.They receive feedback as they participate in the classroom and this feedback helps them to learn more (Eripek, 1998). The larger size of the IWB is considered as an advantage since students can see the visuals more comfortably in larger dimensions. Teachers have indicated that the picture cards they use are usually small and larger visuals displayed on anIWB make the learning process more effective. According to one study, it is suggested that intellectually disabled people can perform activities more easily with larger objects and screens (Lopresti et al., 2008).

Also, the larger size of the IWB improved the effectiveness of the activities in the course and allowed the teachers to conduct teamwork since all students could easily see the board. Although it has been stated that teachers have difficulties in keeping all the children under control while using the IWBs, they also considered them to be an advantage, especially for teamwork. Teachers were able to develop effective teamwork throughthe IWBs and this led to benefits which are difficult to obtain inindividual one-to-one work with students. From the literature, it is evident that the common effect on students is to lead them to actively participate in the course (Eripek, 1998). Tuncer and Altunay (2012) observed that when a teacher asks a common question to all students, they all focus on the course. However, they have also suggested that the same question should be asked to anylower performing students to make sure all of them learn the concept.

Students did not have any difficulties using the board. In the literature, it is known that individuals with intellectual disabilities have trouble using non-touchscreen computers and they rarely have the required hand-eye coordination to use these devices(Gönener, Güler, Altay, & Açıl, 2010). In a study byUzun, Kaya, Kurşun, and Cagiltay (2011), it is reported that using a touchscreen is easier than using a mouse for students with lower motor skills. This information is consistent with the observations made in this study and it has been suggested that the use of touchscreen devices is more adventurous for these students. Williams and Nicholas (2006) suggested that the motor skills of intellectually disabled students may be poor and they could better focus on what they are doing without using a keyboard or mouse. In the same study, researchers indicated that these students wanted to touch the screen all the time and this issue could be resolved by using a touchscreen display.

One of the teachers suggested that students using their motor skills by touching the board, and having interaction with the object rather than just looking at it, is more effective for learning. Other experts supported this suggestion. It has also been claimed in the literature that creating an interaction betweenthe student and the material to be learned gives better results than traditional teaching methods (E. Tekinarslan & Yıkılmış, 2005). According to the teachers, using assistive multimedia tools such as audio and video files as well as animations are advantageous for these children. It is known that aids of this kind facilitate learning by including multiple senses in the process (Avcı, 2009; Dale, 1969). It is also thought that IWBs may have an important impact on the learning process of intellectually disabled students by encouraging the use of these channels. Students need to be supported by positive motivation tools to make them feel successful (Bishop, 1999).

An advantage of IWBs is that traditional materials get damaged over time, whereas multimedia materials last forever. Multimedia materials can be used again and again (Çelik, 2007; Koşar et al., 2005). In one study, a person with an intellectually disabled child was able to increase and decrease speed as he/she desired on the computer, and could repeat a process hundreds of times without the computer's patience running out and he/she was able to freely adapt these processes according to requirements(Jeffs, Morrison, Messenheimer, Rizza, & Banister, 2003). Advantage of multimedia materials is that they can be developed to meet the needs of eachstudent, whereas it is not possible in traditional methods (Avcı, 2009). On the other hand, teachers indicated that one of the disadvantages of multimedia

materials is that students are not able to hold the objects with their hands and examine them as they can do with traditional learning materials. This is consistent with Dale's Cone of Experience. According to Dale's Cone of Experience, holding an object rather than just looking at it is more effective for children in promoting better learning. However, teachers also mentioned the important matter of material shortages in school.

One student in particular with autism was distracted by the red power light on the board and by the teacher's watch. However, the teachers stated that these behaviors disappeared after a period of time and the researchers confirmed this from their observations. It is generally accepted that students with autism in particular can become obsessed with certain objects (Kodal, 2006). Therefore, classrooms should be designed according to the characteristics of the students. As students with autism are often distracted by rotating and flashing objects, the education environment should be designed with this in mind(Özen, 2012; I. C. Tekinarslan, 2012).Williams and Nicholas (2006) also suggested that education environments should be adapted to the characteristics of students. During practices, the attention of students was attracted by different things on the IWB.However, teachers stated that the same problems can be encountered during courses given using traditional methods. It has been concluded that if objects with the potential to distract students are removed from the environment, then the education of the students is likely to be more successful. In line with this conclusion, according to studies in the literature, designing classroom environments by taking these individuals into consideration is extremely effective in increasing their success (Güven, 2008).

Teachers have stated that students acquire new behaviors in classes where the IWB is used. One student learned the instruction 'wait with your hands by your sides' while standing. Another student was not used to responding to the commands 'look or show', but teachers stated that this student learned to respond to these commands when given by the instructor. Another student was well-known for talking too much in regular classes. However, but he/she became quieter in the courses conducted with the IWB.

Another issue highlighted by teachers is that the use of IWBs can improve the technological skills of the students. Although the main purpose of using these boards is to provide better learning for these students, their technological skills have been improved as well. From studies in the literature, it is evident that allowing students to acquire technological skills in addition to learning new things is a significant factor (Boyle & Scanlon, 2009). In addition, again from studies in the literature, it appears that using computers improves students' problem-solving capabilities (Twyman & Tindal, 2006).

As the IWB is a new technology for both students and teachers, it may take some time to get used to it. The initial problems with their use were reduced over time. The larger size of the board and using assistive multimedia materials such as audio-video files are great advantages for these children. Some of the problems encountered in classes conducted with IWBs can also be encountered in traditional teaching methods. Therefore, it is thought that these problems can be eliminated by taking students' individual characteristics into account and designing classrooms in accordance with the needs of these students. In this way, it is believed that these new technologies can be used more effectively in the classroom.

Impact on Teaching Practice

Since the IWB used within the scope of the study is a new technology for the classroom and both teachers and students were not used to having such a technological device, teachers have experienced some problems in the beginning. These problems were mainly due to the fact that the teacher was able to work on the board with only one student at a time and it was necessary to turn his/her back to other students. In the traditional teaching method, teachers establish eye contact with all the students and in this way manage to keep the class under control(Arpacık, Kursun, & Göktas, 2013). Difficulties were experienced as these students do not follow straight-forwarddirectives such as 'be quiet, stop, don't do it' as their peers without disabilities do, and they started to exhibit problematic behaviors. However, the teachers stated that these behaviors reduced over time. Previous studies in the literature

indicate that active participation of students reduces the probability of these problematic behaviors occurring(Eripek, 1998). In this study, it was found that the use of the IWB in the classroom encouraged students to participate in the course.

Since IWBs are a new technology for the teachers, they have stated that they found difficulty in using the boards at first. Adapting to a new technology always takes time(Rogers Everett, 1995). The important thing is to shorten the adaptation period as much as possible. Although teachers had difficulties at first, they became accustomed to the technology in the following weeks, and also stated that the problems encountered at the beginning were greatly reduced. In addition, they felt that their job would become much easier when they obtained full access to the necessary content they require, and the use of IWBs becomesmore widespread.

Fore, Martin, and N. Bender (2002)indicated that burnout levels of special education teachers are higherdue to the overwhelming responsibilities placed on the teachers. It is thought that the use of IWBs will positively affect burnout levels of the teachers by easing their jobs to some extent. Both teachers and administrators were interested in the IWB used at school. Other teachers also wanted to use the board in their classrooms. From previous studies in the literature, burnout levels of special education teachers were found to be higher compared to other teachers (Sahin & Sahin, 2012). Schools for special education are also included in the FATIH project. Therefore, it is believed that using IWBs in classrooms will have a positive impact on teachersin special education schools.

Conclusion

The study has some limitations. The first limitation is that there was only one special education school for students with intellectual disability in the city, located east part of Turkey, when the study was implemented. The sample size was limited at the school and the samples were selected from different classrooms. The students who formed the sample had different disorders. The teachers in these classrooms had never used such technology before so their attitudes and approaches towards the technology were not well established. Teacher 1 was more experienced than Teacher 2, therefore Teacher 1 answered more in the interviews. Finally, the study was conducted within a limited period of time about six weeks.

In conclusion, the following items summarizes the impact of integrating IWB in formal learning settings of students with intellectual disability. With regard to students:

- Although theIWB is a new technology in the classroom, students were comfortable in using it. However, some pre-skill is requiredfor the intellectually disabled to use this board. The larger size of the IWB and its capability of supporting multimedia materials is considered to be a definite advantage.
- In the traditional learning method, students are able to touch the material-object being taught. However, in this new technology they cannot hold the object with their hands, which can be a disadvantage.
- Students are able to touch the board and interact with the materials. This is considered to be a significant advantage.
- Students gain new positivebehaviors during process.
- It was concluded that the IWB has both advantages and disadvantages for group training.
- It was observed that technology can create different impacts on different students.
- It was recommended that the education environment should be designed by taking students' needs into consideration.

With regard to teachers:

- It was found that teachers showed a positive interest in the IWBs.
- Teachers had some trouble with class management at the beginning, but they wereabletoovercome these problems over time.
- Teachers indicated that theIWB has both advantages and disadvantages, butthatthedisadvantages werereduced after using the board for a period of time.

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Journal of Education and Future
year: 2018, issue: 14, 15-30

Preservice Teachers' Risk Perceptions and Willingness to Use Educational Technologies: A Belief System Approach

Mehmet Demirbağ* **Ahmet Kılınç****

Abstract

One of the beliefs that is responsible for teachers' resistance to educational technologies (Ets) is risk perceptions. Risk psychology scholars describe risk perception as people's informal estimation of the probability of an event happening combined with an evaluation of how concerned they would be about the negative consequences of such an incident. About the nature of risk perceptions, three theoretical explanations have been put forwarded: cultural theory, affect heuristic and psychometric paradigm. Because cultural theory has limited predictive power in the empirical research and because affect heuristic not only covers risks but also contains benefits, we focus mainly on psychometric paradigm in the present study. The psychometric paradigm emphasizes that risk is a combination of many factors such as knowledge, dread, control, catastrophic potential, equity, voluntariness and tamper with the nature. The purpose of present study was to understand the predictive power of risk perceptions for pre-service teachers (PTs)' willingness to use Ets. We developed a questionnaire covering three sections: personal information, willingness to use Ets and risk perceptions. We administered this questionnaire to 425 Turkish PTs from different backgrounds (STEM and non-STEM branches). We benefited from factor analysis and hierarchical regression for data analyses. The results of factor analyze showed that six dimensions (dread, unnatural consequences, negative impacts on learning, noneducational purposes, traditional education and first-time use) constituted the PTs' risk perceptions. The regression results showed that certain risk perception dimensions were predictors of willingness to use Ets. At the end of the paper, we suggested implications based on enhancement strategies for teacher epistemology and risk mitigation opportunities.

Keywords: risk perceptions, willingness to use educational technologies, preservice teachers, belief system

* Correspondence Author: Dr., Bursa Uludag University, Faculty of Education, Department of Mathematics and Science Education, Bursa, Turkey. E-mail: mtdemirbag@gmail.com
** Prof. Dr., Bursa Uludag University, Faculty of Education, Department of Mathematics and Science Education, Bursa, Turkey. E-mail: akilinc@uludag.edu.tr

Öğretmen Adaylarının Eğitim Teknolojileri Kullanımına Yönelik İstekliliği ve Risk Algıları: Bir İnanç Sistemi Yaklaşımı Çalışması

Öz

Öğretmenlerin eğitim teknolojilerine direnç göstermelerinden sorumlu inançlardan birisi de risk algılarıdır. Risk psikolojisi uzmanlarına göre bireyler risk algısını, bir olayın meydana gelme olasılığı ve böyle bir olayın olumsuz sonuçları hakkında ne kadar endişe duydukları ile ilgili bir değerlendirmeyle birlikte tanımlar. Risk algılarının doğası hakkında üç teorik açıklama ileri sürülmüştür. Kültürel teori, ampirik araştırmada sınırlı yordayıcı güce sahip olduğundan, duygusal-sezgi (affect heuristic) teori ise riskleri kapsamakla kalmayıp aynı zamanda faydaları da içerdiği için, bu çalışmada temel olarak psikometrik paradigmaya odaklanılmıştır. Psikometrik paradigma, riskin bilgi, korku, kontrol, yıkıcı potansiyel, eşitlik, gönüllülük ve doğaya müdahale gibi birçok faktörün bir bileşimi olduğunu vurgular. Bu çalışmanın amacı, risk algılarının öğretmen adaylarının eğitim teknolojilerini kullanma istekliliğini yordama gücünü anlamaktır. Bu amaçla kişisel bilgiler, eğitim teknolojilerini kullanma istekliliği ve risk algıları olmak üzere üç bölümden oluşan bir anket geliştirilmiştir. Bu anket, farklı branş geçmişine sahip (STEM ve STEM dışı şubeler) 425 öğretmen adayına uygulanmıştır. Veri analizi için faktör analizi ve hiyerarşik regresyondan yararlanılmıştır. Faktör analizi sonuçları, korku, doğal olmayan sonuçlar, öğrenmeyle ilgili olumsuz etkiler, eğitim dışı amaçlar, geleneksel öğretim ve ilk kez kullanım alt boyutlarının öğretmen adaylarının risk algılarını oluşturduğunu göstermiştir. Regresyon sonuçları ise bazı risk algılama boyutlarının eğitim teknolojilerini kullanma istekliliğini yordadığını göstermiştir. Araştırmanın sonunda, öğretmen epistemolojisini geliştirme ve riski azaltma fırsatlarına yönelik önerilerde bulunulmuştur.

Anahtar Sözcükler: risk algıları, eğitim teknolojilerini kullanma isteği, öğretmen adayları, inanç sistemi

Introduction

Technology-oriented knowledge, skills and values are an important part of current life. Not only the daily activities, but also professional lives are invaded by constantly changing technologies. These realities have triggered many governments around the world to incorporate technology-based learning outcomes into national curricula (Organization for Economic Cooperation and Development [OECD], 2015). They have also produced certain international standards for technology-integrated schools (International Society for Technology in Education [ISTE], 2008).

In parallel with these developments, governments have invested enormous money to equip classrooms with recent educational technologies (Ets) (National Education Association [NEA], 2008). Even though they have been very successful in these infrastructure-based policies, they have experienced a strong barrier in reaching technologically literate citizens: Teachers (Howard, 2013). Teachers easily produce resistance when their belief systems do not comply with the reform's necessitates (Rodriquez, 2005). In the case of technology integration, many teachers produce resistance to technology-oriented reforms either by not using Ets in the classrooms or by using technologies in a superficial way (OECD, 2015).

One of the beliefs producing resistance to technology integration is risk perceptions (Howard, 2013; Kilinc et al., 2016). Risk perceptions are beliefs about risk of something or some case that has the potential to happen (Sjöberg, Moen & Rundmao, 2004). Even though there is limited research, we can argue that teachers with high risk perceptions about Ets use are not willing to change their teaching habits and do not put technology-based reforms into practice (Earle, 2002; Howard, 2011, 2013, Kilinc et al., 2016; Timucin, 2009).

Taken together, it is important to study teachers' beliefs about risks of Ets use considering huge investments around the world, important goals about technologically literate citizens and unintended results about teacher's resistance.

Theoretical Framework

Teachers' belief systems and resistance to change

Rokeach (1968) defined belief as "any simple proposition, conscious or unconscious, inferred from what a person says or does" (p.113). Teachers produce a range of beliefs about the self, teaching, student learning, knowledge and knowing (epistemologies) and Ets (Fives & Buehl, 2012). These beliefs are included in a network (Kilinc, Demiral & Kartal 2017). Kılınç et al. (2013), for example, have argued that there are central and peripheral beliefs in this network. Central beliefs have been developed through long-term experience and connected to many peripheral beliefs perhaps because of unbounded nature of beliefs (Abelson, 1979). Epistemologies, beliefs about student learning and teaching efficacy beliefs are the examples of these central beliefs (Fives & Buehl, 2012; Kilinc et al., 2017). On the other hand, peripheral beliefs are built on central ones, are developed through short-term experience and used particularly for daily base decisions (Rokeach, 1968). Content-based teaching beliefs, beliefs about course planning and beliefs on how to integrate the technology into a unit can be examples of peripheral ones (Demirbag and Kilinc, 2015).

A teacher's belief system particularly come into play once s/he experiences an educational reform (Kilinc et al., 2017). When the reform is presented to teachers, they first experience a cognitive doubt and then make reflections on the gap between the expected changes and their belief systems (Rodriquez, 2005). If the reform efforts are not compatible with existing belief system and produce uncertainties, their chance to be put into practice by teachers shrinks (Rodriquez, 2005). In other words, teachers produce resistance to the reform. The position of beliefs in the same system is crucial in this process. Because central beliefs are harder to change than peripheral beliefs (Gill & Fives, 2015) and because peripheral beliefs are contextualized on central beliefs (Kilinc et al., 2017), the reform efforts that are consistent particularly with core, central beliefs become successful (Lee & Witz, 2009).

Risk perceptions

Risk psychology scholars describe risk perception as people's informal estimation of the probability of an event happening combined with an evaluation of how concerned they

would be about the negative consequences of such an incident (Sjöberg et al., 2004). Rather than a sensual perception, risk perception is a belief about risk and it thus is close to attitudinal phenomena (Frewer et al., 2004). The scholars in risk psychology literature consider risk both from analytical and from affective sides (e.g., Slovic & Peters, 2006). They believe the fact that people usually judge new risk sources (items and developments) using limited evidence triggering affective reasoning (Howard, 2011). Such reasoning easily restricts rational thinking based on logic and analysis (Howard, 2011; Kahneman, 2011).

About the nature of risk perceptions, three theoretical explanations have been put forwarded: cultural theory, affect heuristic and psychometric paradigm. Because cultural theory has limited predictive power in the empirical research (Sjöberg, 2000) and because affect heuristic not only covers risks but also contains benefits (Slovic & Peters, 2006), we focus mainly on psychometric paradigm in the present study. The psychometric paradigm emphasizes that risk is a combination of many factors such as knowledge, dread, control, catastrophic potential, equity, voluntariness and tamper with the nature. Many risk psychology studies have used these factors and the researchers have subsumed them into two dimensions: 'dread' and 'uncertainty' (e.g., Sjöberg et al., 2004). Dread is featured by the potential for catastrophic consequences, the lack of control and inequitable distribution of risk. The uncertainty theme is based mainly on the delayed mechanism of the harm, unobservable dangers and the newness of the problem (Sohn, Yang, & Kang, 2001).

Previous Research

Teachers' resistance to technology ıntegration

Even though many countries have invested enormous money in technology-integrated schools, most of them have encountered a big gap between their infrastructure-based policies and intended end goal (i.e., technologically literate citizens): Teachers' resistance. Because most of the countries have not taken teachers' resistance-based belief systems about these educational reforms into account, these investments have produced never used technological tools or tools that are used only for simple learning goals such as presentations, drill-and-practice activities and recognition of words (OECD, 2015).

Such unintended developments have triggered many researchers around the world to understand the factors influencing teachers' resistance to meaningful Ets use. This body of knowledge has showed that four belief clusters are responsible for the resistance. First cluster is related to teacher epistemologies (beliefs about knowledge and knowing) (e.g., Mama & Hennessy, 2013). When the teachers feel that Ets do not contribute to their traditional teaching based on knowledge transfer (Hanley et al., 2002) or they consider the Ets as tools for easing the presentation of conceptions (Eteokleous, 2008), they easily produce resistance to meaningful Ets use (Hermans et al., 2008). Second cluster is related to teaching efficacy. When the teachers have limited mastery and vicarious experience due to lack of technology-oriented educational opportunities (Paraskeva, Bouta, & Papagianni, 2008), they have limited technology-focused skills and competences due to limited exposure to and interest in technologies in both daily life (Wozney, Venkatesh, & Abrami, 2006) and professional life (Hermans et al., 2008) and they are included in an unsupported school environment (Hsu & Kuan, 2013), they produce resistance. Third belief cluster is about student learning. When the teachers believe that technology integration would not contribute to student learning (O'bannon & Thomas, 2014) or even disturb it (Gülcü, 2014) and they experience limited gains after their trials (Howard, 2013), they produce resistance to Ets use. The last belief cluster is regarding the evaluations of external resources. When the teachers experience lack of technological tools, limited technical support (Zhao, Pugh, Sheldon, & Byers 2002) and feel anxieties due to time limitations, curricular pressures (O'bannon & Thomas, 2014), they produce resistance. Perhaps because of connected nature of belief system (Rokeach, 1968), these belief clusters inform each other on daily base (Kilinc et al., 2017) and direct teachers not to use Ets.

Teachers' risk perceptions about ets use

Even though the researchers have successfully uncovered the belief clusters causing resistance to change, they seem to miss (Howard, 2013) an important psychological paradigm that is responsible for resistance to anything new: Risk perceptions. Several researchers have mentioned these beliefs as 'factors' or 'barriers'. Earle (2002), for example,

noted that teachers considered access, time, support, resources and training as extrinsic barriers, whereas attitudes, beliefs and practice are intrinsic barriers. Some have used the 'concern' terminology. O'bannon and Thomas (2014), for example, listed teachers' concerns about Ets use: access, cheating, cyberbullying, disruption of class, negative impact of texting on writing, sexting and access to inappropriate content. Some researchers have preferred the term 'anxiety'. Moran, Hawkes and Gayar (2010), for example, noted that teachers' anxiety was a negative factor for tablet PC integrations. Teachers argued that they felt apprehensive about tablets, that it scared them to think they could lose a lot of information and that they hesitated to use them for fear of making mistakes.

Different from these terminologies, several researchers have used 'risk-oriented' terminologies for denominating these psychological components. Offir and Katz (1990), for example, examined the relationship between elementary school teachers' attitudes towards Ets use and the level of 'risk-taking'. They noted that high risk-taker teachers were more positive about Ets use than medium- and low-level risk takers. In addition, Timucin (2009) investigated teachers' 'risk-related beliefs' about adoption of a computer assisted learning. He uncovered certain risk themes such as feeling of resentment and uncertainty, fear about using technology, concerns about being outcasts in teaching and aversion to risking established teacher careers.

Finally, Howard (2011, 2013) and Kilinc et al. (2016) have used 'risk perceptions' for characterizing the psychological structures causing resistance to Ets use and benefited from risk psychology theories. Howard (2011) scrutinized teachers' technology-related risk perceptions using an 'affect heuristic model'. She argued that teachers with a positive affect toward ETs use perceived low risks and high benefits. In addition, these teachers were risk-takers, had high levels of computer efficacy and used student-centered discourse relative to those with negative affect. In one another research, Howard (2013) associated risk perceptions with teachers' resistance to change in the case of technology integration. Her framework this time was based on appraisal theory and cost-benefit analysis. She found that decision not to integrate technology was related to a combination of negative feelings about technology as well as an aversion to risk-taking in teaching. Regarding teachers' willingness to use Ets, Kilinc et al. (2016) incorporated risk perceptions into a decomposed Theory of Planned Behavior (TPB) model. They benefited from 'psychometric paradigm' as a theoretical framework. The results showed that PTs did not find Ets overly risky. In addition, risk perceptions mediated the relationships between independent components in TPB model (attitude, subjective norm and perceived behavioral control) and willingness to use Ets.

Purpose and Research Questions

Given the theoretical framework and previous research, we can clearly argue that many teachers are resistant to educational reforms because these reform activities do not match with their existing belief systems (Kilinc et al., 2017; Rodriquez, 2005). This resistance is particularly observed in the case of technology integration (Howard, 2013). Even though the governments and international standards emphasize the importance of educating technological literate citizens who can cope with the challenges of 21st century and governmental bodies have invested enormous money for infrastructures, most of the teachers do not meaningfully integrate Ets into their teaching (e.g., OECD, 2015). Although the researchers have investigated teachers' beliefs (e.g., teacher epistemology) causing resistance to technology integration, an important psychological paradigm (i.e., risk perception) that has potential to explain the relationships between these belief structures and resistance seems to be missed. Only a handful of researchers have benefited from risk-oriented terminologies. These limitations, the necessity of taking urgent steps due to increasing governmental pressures on new generation skills and increasing resistance to Ets use among teachers were starting points of present study. At this point, the purpose of present study was to understand the predictive power of PT's risk perceptions for willingness to use Ets by using a sound risk perception theory (psychometric paradigm). Given this goal, following research question directed our research inquiry: Do PTs' risk perceptions predict their willingness to use Ets?

Method

Context and Sample

We believe that Turkey is a good laboratory environment in order to understand PTs' and in-service teachers' belief systems and risk perceptions about Ets. Ministry of National Education (MNE, 2014), for example, has launched FATIH Project (Movement of Enhancing Opportunities and Improving Technology) in order to enhance equality to access knowledge among the regions and to enhance technology use in K-12 classrooms (Kilinc et al., 2016). Since 2012, smart boards for each classroom and student and teacher tablets have been distributed to all high schools. In addition, MNE has provided in-service education about efficient technology integration to high school teachers.

On the other hand, there are two directions for becoming a teacher in Turkey. In the first option (e.g, Teaching Biology major), candidates apply to Faculties of Education and are exposed to subject-matter and pedagogy courses. In the second option (e.g., Biology major), the graduates of Science and Arts apply to Faculties of Education in order to take pedagogy courses in the duration of a year (called the Formation). We selected our sample from the PTs in the Formation period at a Turkish University. The convenience sampling procedures were adopted. We first administered our questionnaires to 431 PTs. We excluded six participants due to limited data. Therefore, we used a total of 425 PTs' responses. 86 males (20.2 %) and 330 (77.6 %) females constituted this sample (Nine PTs have not selected any gender [2.2 %]). The mean age was 26.9 (SD=5.17, Range = 20 - 48). 185 (43.5 %) PTs were from non-STEM branches (e.g., Turkish Literature, Philosophy, Sociology, Psychology, Religious Studies, etc.), whereas 240 (56.5 %) PTs were from STEM branches (e.g., Mathematics, Physics, Chemistry, Biology, Engineering, etc.).

Data Collection Tool

We developed a questionnaire titled 'Risk Perceptions and Willingness to Use Ets (RPWUE)'. The questionnaire covered three sections: Personal Information, Willingness to Use Ets and Risk Perceptions. In the first section, we asked PTs to fill their personal information regarding field of study (graduated major), gender, age, the number of owned digital technologies (they selected following options as much as they have: PC, lap-top, net-book, flash-memory, scanner, mobile phone, tablet PC, external hard drive, printer and none) and the frequency of Ets use in previous teaching experience (they selected one of the following options: Never, 1-2 times, 3-4 times, 5-10 times and More than 10 times). We selected these components of personal information because previous findings (e.g., Paraskeva et al., 2008 for study field; Tsai & Tsai, 2010 for the gender; O'bannon and Thomas (2014) for age; Almerich, Orellana, Suárez-Rodríguez and Díaz-García (2016) for the number of owned digital technologies; Hermans et al., 2008 for the frequency of Ets use in previous teaching) repeatedly showed that they are important predictors of Ets use.

The second section included items about 'willingness to use Ets'. For uncovering this willingness, we used five items (e.g., I intend to use ETs as a teacher) that were previously designed by us (Kilinc et al., 2016). The response alternatives here were 'I completely agree', 'I agree', 'Neither agree and nor disagree', 'I agree' and 'I completely agree'.

For the last section covering risk perceptions, we applied procedures of questionnaire development. We first conducted semi-structured interviews with 13 PTs at the same university where we administered the questionnaires. Out of 13, seven PTs were from Science Teaching major and six were from Social Studies Teaching major. We asked two questions addressing possible risk perceptions about Ets use and being informed by psychometric paradigm (Sjöberg et al., 2004) (Question 1: Do you find using Ets risky? If yes, what kind of risks do you feel? If no, why? Question 2: What uncertainties do you feel about your future Ets use). Two authors of present study independently scrutinized this data. We selected frequently used risk-oriented sentences in the transcripts. We then put the selected sentences together and finalized a draft version of Risk Perceptions sub-questionnaire. This draft form included 60 items with response alternatives 'Absolutely not', 'Very little', 'Rather little', 'To some extent', 'To a rather high degree', 'To a high degree' and 'To a very high degree'. A team of three experts (one who was expert on instructional

technologies, one who was expert on Turkish Language and Literature and one who was expert on statistics and questionnaire development), three doctoral students and three PTs from the Formation scrutinized the items in terms of clarity, content and language. After this group's suggestions, we excluded 12 items. Final version of this sub-questionnaire included 48 items.

The RPWUE questionnaire were administered in normal classroom conditions with the help of course lecturer. The PTs were reminded that all ethical procedures were completed and the participation was voluntary. The completion of questionnaires took approximately 25 minutes.

Data Analysis

In order to examine the reliability and validity of RPWUE questionnaire, alpha scores and factorial structures were calculated. In factor analysis, we benefited from Principal Components Factor Analysis (PCFA) with Varimax rotations (Tabachnick & Fidell, 2001). In addition, we used descriptive measures such as mean scores, standard deviations and ranges. For responding our research question, we used Hierarchical Regression Analysis. In addition, because we were willing to understand 'clear' predictive power of risk perceptions for willingness to use Ets, we controlled personal variables that were significant predictors in previous research.

Results

Preliminary Analyses

The descriptive results about preservice teachers' willingness to use ETs showed that they were very enthusiastic. As shown in Table 1, the features of these technologies such as making teaching easier and achieving a better teaching as well as PTs' intention to try new things seemed to be influential factors in their willingness.

Table 1. *Descriptive results about willingness to use Ets*

Willingness to use ETs (Alpha Score = .93)	Mean	SD
I intend to use ETs as a teacher.	4.35	0.86
I want to use ETs in my classroom in order to achieve better teaching.	4.28	0.90
I am willing to use ETs because I like learning new things.	4.20	0.90
I am keen to use ETs in my classroom because I believe that they make teaching easier.	4.19	0.93

On the other hand, we conducted PCFA with Varimax rotation in order to determine the factorial structure of Risk Perception sub-questionnaire. We excluded 13 items due to low factorial values, joint factor loadings and reliability problems after six iterations. As shown in Table 2, the final PCFA yielded six factors: *dread* (10 items; 15.55 % variance), *non-educational goals* (6 items; 12.57 % variance), *negative impacts on learning* (6 items; 10.19 % variance), *unnatural consequences* (6 items; 8.87 % variance), *first time use* (2 items; 6.22 % variance) and *traditional education* (3 items; 5.1 % variance). These factors predicted % 58.51 variance on Risk Perception sub-questionnaire. In addition, the reliability scores of the factors ranged from 0.56 to 0.95.

Looking at descriptive results in Table 2, it seems that PTs found using Ets slightly risky. In terms of *dread*, most of PTs considered that the existence of limited knowledge about integration of Ets would not make them anxious. They particularly emphasized that students' prior knowledge about technologies might trouble them. Both students with sophisticated knowledge and those with limited knowledge seemed to be sources of risk because former group might not like the teaching materials and latter group might need extra attention. In addition, it seems that the feeling of being responsible due to technical problems of Ets made PTs anxious. However, they did not consider that they would feel embarrassment when they experienced these problems. When it comes to *non-educational goals*, the possibility of using Ets only for entertainment and for accessing social media sites moderately made PTs anxious. In addition, accessing illegal websites yielded the lowest risk score in this factor.

Table 2. *Descriptive results and factor loads in Risk Perception sub-questionnaire*

Factorial Structures	Mean	SD	Factor loads
Dread (Alpha Score = .88)			
18. To what extent does the possibility of existence of the students who know technology better than you in the classroom make you anxious?	2.41	1.40	.62
19. To what extent do you feel embarrassed if you experience problems while using technologies?	2.33	1.39	.71
21. To what extent will you struggle in adapting to new ETs considering rapid technological developments?	2.81	1.22	.55
26. To what extent will you struggle in preparing the digital learning environments that would be liked by students who enjoy the digital technologies?	3.28	1.08	.46
31. To what extent may you lose face in the classroom unless everything goes well?	2.33	1.16	.63
32. To what extent does the possibility of technologies' breaking down during the course make you anxious?	2.43	1.35	.79
33. To what extent does that you have limited knowledge about certain ETs make you anxious?	2.75	1.31	.81
34. To what extent does that you have limited knowledge about integrating certain ETs into your teaching make you anxious?	2.87	1.30	.78
47. To what extent does that some students have limited knowledge about technology use make you anxious?	3.17	1.31	.57
48. To what extent does the idea of being responsible for the technical problems in ETs make you anxious?	3.14	1.42	.62
Non-Educational Goals (Alpha Score = .85)			
2. To what extent does using ETs in the classroom make students to access illegal web sites?	3.26	1.40	.58
15. To what extent do the students use ETs only for entertainment?	3.76	1.33	.70
24. To what extent do the students use ETs for non-educational goals?	3.68	1.39	.77
25. To what extent do the students break the passwords of the tablets	3.70	1.36	.57
27. To what extent does using ETs in the classroom make your students to access game sites?	3.67	1.34	.81
30. To what extent does using ETs in the classroom make your students to access social media sites such as Facebook?	3.82	1.52	.75
Negative Impacts on Learning (Alpha Score=.82)			
20. To what extent does ETs make the social relationships among your students to fade?	3.30	1.46	.50
22. To what extent does students' gazing on visuals in ETs distract them?	2.99	1.24	.73
29. To what extent does using ETs fade your students' interest in the course?	2.86	1.25	.60
36. To what extent does using ETs make your students free rider?	4.00	1.22	.44
37. To what extent does using ETs in the classroom cause loss of time?	2.59	1.17	.61
41. To what extent using ETs negatively affect student learning?	2.83	1.10	.63
Unnatural Consequences (Alpha Score=.83)			
1. To what extent does using ETs in the classroom cause the illnesses such as cancer?	2.78	1.10	.77
12. To what extent does using ETs mean destroying the natural classroom environment?	2.97	1.32	.44
13. To what extent do you think that the risks stemming from using ETs increase over time?	3.22	1.26	.53
14. To what extent does using ETs have the risks unknown today?	3.46	1.08	.64
17. To what extent does using ETs expose radiation to students?	3.37	1.23	.78
28. To what extent does using ETs cause eye diseases?	3.72	1.21	.49
Traditional Education (Alpha Score = .56)			
35. To what extent do the parents prefer traditional education that is shaped by national examinations to using ETs in the classrooms?	3.64	1.32	.65
38. To what extent do your students prefer traditional education that is shaped by national examinations to using ETs in the classrooms?	2.82	1.28	.56
40. To what extent do the principals support traditional education that is shaped by national examinations to using ETs in the classrooms?	3.69	1.18	.79
First time use (Alpha Score=.95)			
4. To what extent does using ETs first time make you frighten?	2.47	1.31	.86
5. To what extent does using ETs first time in FATIH Project make you anxious?	2.47	1.28	.85

In the case of *negative impacts on learning,* PTs moderately believed that Ets would negatively affect student learning. They strongly believed that Ets would make students free riders and would fade the social relationships among the students. They also moderately believed that Ets might distract students. On the other hand, they did not strongly believe that Ets would lead the loss of time. In terms of *unnatural consequences,* they moderately thought that Ets would destroy natural classroom environment. They thought that these technologies might cause eye diseases. In addition, they believed that Ets might have unknown risks that might emerge in the future. They also believed that Ets might expose radiation to students not as much as they thought that these technologies might cause cancer. Regarding *traditional education,* they moderately believed that students, parents and principals might prefer traditional education (i.e., didactic teaching without Ets) to Ets because of national examinations. Finally, it seems that *first time use* of Ets did not make PTs anxious.

The predictive power of risk perceptions for willingness to use ETs

We conducted hierarchical regression in order to understand the predictive power of risk perceptions for willingness to use Ets. We entered personal variables such as gender, age, field of study, the number of owned digital devices and the frequency of Ets use in previous teaching experience in the first step. We incorporated risk perception factors into the model in the second step. The results of this regression were presented in Table 3.

Table 3. *The results of first regression*

		Willingness to use ETs			
	Variables	B	SE	Beta	p
Step 1	Gender	0.96	0.41	**0.12***	0.02
	Age	0.01	0.03	0.01	0.88
	Field of Study	-0.16	0.34	-0.02	0.64
	The number of digit devices	0.29	0.09	**0.17***	0.01
	The frequency of tech. use	0.03	0.11	0.01	0.78
Step 2	Gender	1,09	0,41	**0,13***	0,01
	Age	-0,02	0,03	-0,04	0,46
	Field of Study	-0,02	0,32	-0,01	0,94
	The number of digit devices	0,28	0,09	**0,16****	0.00
	The frequency of tech. use	-0,04	0,11	-0,02	0,71
	Traditional Education	0,12	0,06	**0,10***	0,05
	First time use	-0,04	0,07	-0,03	0,61
	Unnatural consequences	-0,11	0,04	**-0,18****	0,01
	Negative impacts on learning	-0,15	0,04	**-0,25****	0.00
	Non-educational goals	-0,01	0,03	-0,01	0,94
	Dread	0,02	0,02	0,04	0,51
		Step 1: R^2=0.04, F (5, 385) = 3.162, p<0.01, Step 2: R^2=0.17, F (11, 379) = 6.940, p<0.001			

Table 3 showed that gender ($\beta = 0.12$, $p < 0.05$) and the number of owned digital devices ($\beta = 0.17$, $p < 0.05$) were significant positive predictors of willingness to use Ets. Specifically female PTs and those with high number of digital devices seemed to be more intended to use ETs. In addition, the personal variables in the first step explained 4 % total variance. When the risk perception factors were added into the model, we noticed that these factors significantly contributed to the variance ($R^2 = 0.17$, F (11, 379) = 6.940, $p<0.001$). Among these factors, *traditional education* was a significant positive predictor ($\beta = 0.10$, $p = 0.05$), whereas *unnatural consequences* ($\beta = - 0.18$, $p < 0.05$) and *negative impacts on learning* ($\beta = - 0.25$, $p < 0.05$) were significant negative predictors. Perhaps those strongly believing the risk of stakeholder's preference would be traditional education over Ets use were more willing to use Ets. In addition, those strongly believing the risk of Ets would

negatively affect student learning and those strongly believing the risk of Ets use would produce unnatural consequences had less intention to use Ets. In addition, gender ($\beta = 0.13$, $p < 0.05$) and the number of owned digital devices ($\beta = 0.16$, $p < 0.05$) were still positive predictors in the second step.

Table 4. *The results of second regression*

		Willingness to use ETs			
	Variables	B	SE	Beta	p
Step 1	Traditional Education	-0.08	0.07	**-0.06**	0.26
Step 2	Traditional Education	0.12	007	**0.08**	0.09
	Negative impacts on learning	-0.28	0.04	-0.37	0.00
Step 3	Traditional Education	0.13	0.07	**0.09**	0.09
	Negative impacts on learning	-0.22	0.05	-0.30	0.00
	Unnatural consequences	-0.09	0.05	-0.11	0.08
Step 4	Traditional Education	0.14	0.07	**0.10**	0.05
	Negative impacts on learning	-0.21	0.05	-0.28	0.00
	Unnatural consequences	-0.09	0.05	-0.12	0.06
	The number of digit device	0.33	0.10	0.15	0.00
Step 5	Traditional Education	0.13	0.07	**0.09**	0.07
	Negative impacts on learning	-0.20	0.05	-0.27	0.00
	Unnatural consequences	-0.10	0.05	-0.14	0.03
	The number of digit device	0.35	0.10	0.16	0.00
	Gender	1.07	0.46	0.11	0.02
	Step 1: R^2=0.03, F (1, 398) = 1.263, p>0.01, Step 2: R^2=0.12, F (2, 397) = 28.311, p<0.001, Step 3: R^2=0.13, F (3, 396) = 20.031, p<0.01, Step 4: R^2=0.15, F (4, 395) = 18.130, p<0.01, Step 5: R^2=0.17, F (5, 394) = 15.724, p<0.01				

In the first regression, consistent with existing literature (e.g. Eteokleous, 2008), we expected that *traditional education* factor would negatively predict willingness to use Ets because we believed that as PTs considered the risk of stakeholders would prefer traditional education to Ets use, they would have less intention to Ets use. Because we confronted a positive beta score ($\beta = 0.10$), which was an unexpected result, we run second regression for thoroughly understanding the predictive power of *traditional education*. Here, we benefited only from significant predictors of first regression. We added them one by one through five steps as shown in Table 4. When we added *traditional education* into model in first step, it yielded an insignificant negative beta score ($\beta = -0.06$, $p > 0.05$). This fitted with our expectation. However, as we added other risk perception factors into the model one by one (in steps 2 and 3), we noticed that other significant negative predictors suppressed the predictive power of *traditional education* and made it a positive predictor ($\beta = 0.08$, $p > 0.05$ in the second step; $\beta = 0.09$, $p > 0.05$ in the third step). The incorporation of significant personal variables into the models in following steps did not saliently change this picture.

Discussion

The purpose of present study was to understand the predictive power of PTs' risk perceptions for willingness to use Ets. We first developed a valid and reliable questionnaire and administration of this questionnaire resulted in six factors: *dread, non-educational goals, negative impacts on learning, unnatural consequences, first time use* and *traditional education*. Even though many studies adopting psychometric paradigm produced two main

factorial structures (dread and uncertainty) (Sjöberg et al., 2004), our distribution of factors was acceptable because some researchers found similar themes such as 'tamper with the nature' and 'negative impacts' in previous risk psychology studies (Sjöberg, 2000).

We can argue that PTs found Ets slightly risky. Looking at risk perception factors, *dread*, for example, seems to be related to belief cluster about *teaching efficacy* that was uncovered in existing literature (e.g., Timucin, 2009) Most of PTs considered that limited knowledge about integration of Ets would not make them anxious perhaps because they trusted on their mastery experience on similar technologies at home (e.g., Almerich et al., 2016). Some PTs believed students' knowledge level (high or low) might trouble them. Feeling responsible for technical problems was one another dread source (Moran et al., 2010). Perhaps PTs' limited technical abilities and limited pedagogical repertoires on how to deal with students with extreme knowledge levels (Howard, 2013) were the sources of the risks in their minds.

The *non-educational goals* seem to be related to belief cluster about *student learning* in existing literature (e.g., O'bannon & Thomas, 2014). Like the teachers considering that Ets might disturb student learning in previous studies (e.g., Gülcü, 2014), some PTs in the present study considered that students might use Ets for entertainment and accessing social media. Even though accessing illegal websites yielded lowest score, we can argue that this *non-educational goal* was expressed by many teachers in different countries (e.g., Kilinc et al., 2016). We believe that these risk sources were particularly related to teachers' understandings about the control mechanisms. Even though they may be aware of filtering systems, they may not be aware of whether the schools use these them.

The negative impacts on learning was also related to belief cluster about *student learning* in existing literature (e.g., Mama & Hennessy, 2013). PTs moderately believed that Ets would negatively influence student learning. Fading social relationships, distraction and making students free riders were highly agreed items. Similar findings were observed in many previous studies (e.g., Moran et al., 2010; O'bannon & Thomas, 2014), meaning that these impacts are easily recognizable and personally experienced by the teachers. In addition, even though loss of time was one of the top risks suggested by experienced teachers (e.g., Earle, 2002), PTs in the present study did not find this possibility risky perhaps because most of them did not have a real teaching experience where they need to have an efficient time management.

The factor *unnatural consequences* seem to be different from belief clusters existing in previous findings. It is close to 'uncertainty' dimension in psychometric paradigm (Sohn et al., 2001). Even though the item about destroying natural classroom environment may be related to belief cluster about *teacher epistemology* (i.e., teacher-centered learning and knowledge transfer), we can argue that particularly unnatural results come together in this factor. Consistent with some resistant teachers (e.g., Howard, 2013), PTs moderately believed that Ets would destroy natural classroom environment perhaps because they envisaged a classroom including materials such as blackboard, books, notebooks and pencils with which they studied in their previous schooling years (Gülcü, 2014). Most of the other items in this factor were related to health. They agreed that Ets might cause eye diseases and radiation. However, they did not believe that these technologies would cause cancer. Perhaps PTs experienced similar technologies for long time and did not produce any cause-effect reasoning with cancer due to long time exposure and resulting no illness (Kilinc et al., 2016).

Traditional education was related to belief cluster about *teacher epistemology*. Previous findings repeatedly showed that some teachers preferred teacher-centered learning and gave importance to the knowledge transfer due to the nature of national examinations (Eteokleous, 2008; Mama & Hennessy, 2013). These findings are consistent with the nature of school culture in Turkey due to centralized examination system (Kılınç, Watt, & Richardson, 2012). PTs in the present study seem to be concerned regarding students', teachers' and principals' expectations of traditional education based on transfer of scientific truths and solving test questions. Perhaps their similar experience in previous schooling years also enhanced this mentality.

First time use was related to belief cluster about *teaching efficacy*. In previous studies, the teachers with lack of knowledge and of skills about Ets use felt anxious for their first time use (Paraskeva et al., 2008). However, PTs in the present study did not feel same problem. In risk psychology research, the researchers repeatedly found that novices were stronger risk takers than experienced people perhaps because of their limited negative experience and knowledge-seeking nature of humans (Taylor, 2010). This finding might explain our first time user PTs' strong enthusiasm.

Looking at predictive power of risk perceptions for willingness to use Ets, regression results showed that certain personal variables were significant predictors. The gender and the number of owned digital technologies were significant positive predictors of willingness to use Ets. Even though our research question was not particularly related to personal variables, we can argue that these two important parameters deserve further attention.

When it comes to risk perceptions, underlying analysis unit of present study, we noticed that they contributed to the variance in willingness to use Ets (13% variance contribution). In other words, risk perceptions are crucial factors determining willingness to use Ets.

We can firstly say that *first time use* and *noneducational goals* were not significant predictors of our dependent variables. The PTs had already not found *first time use* as a source of risk and perhaps their risk-taking nature (Offir & Katz, 1990), eliminated the impact of this dimension on the willingness to use Ets. In the case of *noneducational goals* such as accessing illegal websites, even though they might have moderate risk perceptions on these components, we believe that they may feel confidence for using 'control' and 'filter' mechanisms when it comes to practice.

Traditional education was an intriguing risk perception dimension that was struggled us to understand. In the first regression, it was a positive predictor of willingness to use Ets. Before looking at our second regression results, we first thought that perhaps PTs wanted to cope with students', parents' and principals' traditional education-based expectations as they considered that examination-based traditional education would destroy a student-centered learning environment where Turkish teacher educators strongly promoted in the Formation courses. Such 'Robin Hood effect' was also observed in one of our previous studies (Kılınç et al., 2013). However, the results of second regression reminded us to completely revise our mentality. When we incorporated *traditional education* as a single predictor, it was a significant negative predictor of willingness to use Ets. However, when we added *negative impacts on learning* into first model, this additional dimension suppressed the beta value of *traditional education* and *traditional education* became a positive predictor (even though the score was insignificant). Similarly, *unnatural consequences* stemming from trying something new enhanced positive prediction of *traditional education* in the third step. These results may mean that PTs possessed a core, central belief about *teacher epistemology* that was based on traditional education with limited (or without) Ets use. In the first step, PTs were willing to adopt stakeholders' preference (traditional education that is shaped by examination system) because it fits well with their own core belief. As they agreed stakeholder's preference, they did not want to use Ets (perhaps they had already not wanted to use technologies). Considering nested nature of beliefs (Kilinc et al., 2017), when we added *negative impacts of Ets on learning* and *unnatural consequences* to *traditional education* to the model, perhaps PTs felt that Ets use might destroy their important traditional learning environment (these two dimensions decreased their willingness to use ETs) (Hanley et. al., 2002; O'bannon & Thomas, 2014) and they therefore wanted to take the ropes at hand and managed these negative impacts by enhancing their own technology use (Traditional Robin Hood effect). We can speculate that we discovered a small belief system including four beliefs after this calculation. Core belief was traditional education with limited or without Ets use. Peripheral beliefs were beliefs about stakeholders' preference, beliefs about impacts of Ets use on student learning and beliefs about unnatural consequences of Ets use.

It is easy to interpret the findings about other risk perception dimensions after this stage. If we remember again, perhaps most of the PTs had a traditional learning environment with limited or without Ets use in mind. The items in *unnatural consequences* and *negative impacts on learning* may be understood in terms of negative influences on a traditional

environment though we first thought that PTs might consider a student-centered environment with a meaningful Ets integration (Ertmer & Ottenbreit-Leftwich, 2010). Bearing this new perspective in mind, we can argue that *unnatural consequences* such as destroying 'natural classroom environment' (i.e., 'their desired traditional learning environment') and resulting health-based problems caused them not to use Ets. Same reasoning can also be used for *negative impacts on learning*. Distraction and becoming free-riders sound threats to a traditional learning environment because students need to gaze what the teachers tell and write as well as they need to memorize the conceptions so their minds need to efficiently work. Therefore, such threats of Ets use resulted in the decrease in willingness to use Ets.

Implications

We took two lessons from present study. And these lessons might be turned into applications about professional development. First, yes, we need reform policies in order to produce a balance among science, technology and society and to provide efficient and healthy lives for humans (NEA, 2008; ISTE, 2008). However, the reform efforts specifically about technology integration in our case need to take teachers' belief systems into account (Fives & Buehl, 2012). Present study taught us that particularly certain core, central beliefs such as beliefs about *teacher epistemology*, beliefs about *student learning* and beliefs about *teaching efficacy* work together in the case of technology integration. Particularly a core, central belief that is based on *traditional education* (i.e. didactic teaching for knowledge transfer) with limited or without Ets use seem to invade a big portion of our Turkish PTs' belief system. Even though teacher epistemology are harder to change than peripheral versions (Gill & Fives, 2015), we suggest epistemology-oriented sessions to revise this central belief.

Second lesson was related to risk perceptions and risk mitigation strategies. Even though it seems that PTs in the present study looked at risk perception items from a lens of a central belief (*traditional education)*, and even if first job should be destroying this wall, our findings showed that risk perceptions require immediate care because they could easily produce blocks before willingness to use Ets. Risk communication strategies at this point may be helpful. The scholars in risk psychology literature suggest a combination of 'risk as analysis' and 'risk as feeling' approaches (e.g., Slovic & Peters, 2006). Perhaps our PTs evaluated risk perception items using their schooling experience or their limited experience in Formation period. This limited evidence has the potential to trigger affective reasoning (e.g., Traditional Robin Hood effect) (Howard, 2011) and to restrict rational thinking based on logic and analysis (e.g., Kahneman, 2011). Taken together, even though there is limited research on the (mathematical) risk possibilities of Ets use, such knowledge about *negative impacts on learning* (e.g., the proportion of students considering that Ets distract them and follow up risk calculations), *unnatural consequences* (e.g., the proportion of radiation stemming from Ets and follow up risk calculations) and *traditional education* (e.g., the proportion of parents preferring traditional education over Ets use and follow up risk calculations) can be produced and shared with PTs. In addition to this analytic framework, experienced teachers can be invited to teacher education courses so they share their experience about Ets use and obstacles they encountered. Perhaps these experienced teachers would use an affect-rich language. These narratives and risk possibilities can be discussed with PTs so they change the configurations of their belief systems in the intended direction.

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Journal of Education and Future
year: 2018, issue: 14, 31-56

Evaluation of Information Technologies Teachers' in-class Behaviors in the Context of Hidden Curriculum*

Mustafa Fidan** **Meriç Tuncel*****

Abstract

The aim of this study is to evaluate the in-class behaviors of information technologies teachers and the factors that lead to those behaviors in the context of hidden curriculum on the basis of the opinions of information technologies teachers. From the qualitative research methods, the 'phenomonology' research design was used in this study. A total of 15 information technologies teachers who were teaching at secondary schools in a central town of a city located in the West Blacksea Region, Turkey, participated in the study. From purposeful sampling method, criterion and maximum diversity samplings were used in selection of the sample. Data were collected by means of semi-constructed interview forms. The gathered data were analyzed through both descriptive and content analysis methods. As a result of the interviews made with teachers, it was observed that the teachers gave messages and responses which were not in the scope of the formal curriculum. In this direction, teacher behaviours were divided into seven sub-themes such as "power and authority", "prejudices and discrimination", "narratives", "communication", "role-model", "getting a profession", and "school culture". It was identified that most of the teachers were authoritarian and serious, discriminated among students according to individual diffferences, conveyed the ideas that they did not adopt in real life, made social, moral and ideological narratives suiting with their own thoughts and beliefs, preferred teacher-centered methods and techniques and were not able to create a democratical environment during lessons. In this study, it was understood that information technologies served to the hidden curriculum especially in terms of adoption of school culture, interaction with students was effective in occurance of hidden learnings, and status and economical advantages of a profession were of primary importance in teachers' professional guidance. Depending on the results of this study, some educational conclusions and recommendations for future studies were also included in this paper.

Keywords: hidden curriculum, information technologies, secondary school, curriculum, teacher's behaviours

* This study was derived from first author's master's thesis, conducted under the supervision of the second author.

** Inst. Dr., Bartin University, Distance Education Application and Research Center, Bartin, Turkey. E-mail: mfidan@bartin.edu.tr

*** Assist. Prof. Dr., Bolu Abant İzzet Baysal University, Department of Educational Science, Bolu, Turkey. E-mail:tuncel_m@ibu.edu.tr

Bilişim Teknolojileri Öğretmenlerinin Ders içi Davranışlarının Örtük Program Bağlamında Değerlendirilmesi

Öz

Bu araştırmada bilişim teknolojileri öğretmenlerinin görüşlerinden hareketle, ders içi davranışlarının ve bu davranışların ortaya çıkmasında etkili olan unsurların örtük program bağlamında değerlendirilmesi amaçlanmıştır. Araştırmada nitel araştırma yöntemlerinden olgubilim (fenomonoloji) deseni kullanılmıştır. Araştırmaya Batı Karadeniz Bölgesi'nde bir ilin Merkez ilçesindeki ortaokullarda görev yapan 15 bilişim teknolojileri öğretmeni katılmıştır. Çalışma grubunun belirlenmesinde, amaçlı örnekleme yöntemlerinden ölçüt ve maksimum çeşitlilik örneklemesi kullanılmıştır. Araştırma verileri yarı yapılandırılmış görüşme formu aracılığıyla toplanmıştır. Elde edilen veriler, hem betimsel analiz hem de içerik analizi yapılarak çözümlenmiştir. Görüşmeler sonucunda öğretmenlerin resmi program dışında mesaj ve tepkiler verdikleri görülmüştür. Bu doğrultuda öğretmen davranışlarına yönelik "güç ve otorite", "ön yargılar ve ayrımcılık", "anlatılar", "iletişim", "rol-model", "meslek edinme" ve "okul kültürü" olmak üzere yedi alt tema belirlenmiştir. Derste öğretmenlerin çoğunun; otoriter ve sert oldukları, bireysel farklılıklara göre ayrım yaptıkları, gerçek yaşamda benimsemedikleri düşünceleri aktardıkları, kendi görüş ve inançlarına göre toplumsal, ahlaki ve ideolojik anlatılar yaptıkları, öğretmen merkezli yöntem ve teknikleri tercih ettikleri, demokratik bir ortam oluşturmadıkları tespit edilmiştir. Araştırmada bilişim teknolojilerinin özellikle okul kültürünü benimsemede örtük programa hizmet ettiği, öğrencilerle kurulan iletişimin gizil öğrenmelerin oluşmasında etkili olduğu, öğretmenlerin mesleki yönlendirmelerinde statünün ve ekonomik getirinin ön planda olduğu görülmüştür. Araştırma sonuçları doğrultusunda gelecekte yapılacak araştırmalara ilişkin önerilere ve eğitsel çıkarımlara yer verilmiştir.

Anahtar Sözcükler: örtük program, bilişim teknolojileri, ortaokul, öğretim programı, öğretmen davranışları

Introduction

Behaviours that teachers display in educational settings are one of the important factors that shape teaching-learning process. During teaching practice, teachers might give verbal or nonverbal messages and responses in compliance with their own personality, thoughts, beliefs and expectations either being aware or not. According to Alsubaie (2015), teacher behaviours have impact on occurance of unplanned learnings out of the formal curriculum beside helping to reach the desired features by affecting the learning activities. This indicates that formal curriculum may not be applied as it has been planned in a real classroom setting and learning outcomes might be different from what is expected even if it has been prepared very cautiously and systematically (Yüksel, 2004). In this sense, students encounter the hidden curriculum which includes unwritten and unplanned learning outcomes out of the formal curriculum.

Hidden curriculum is a comprehensive concept which includes the unplanned activities that are not clearly stated in formal curriculum and the learnings that students are expected to achieve (Alsubaie, 2015; Murphy, Mufti & Kossem, 2009; Yüksel, 2004). The hidden curriculum is defined by some researchers as learnings that occur through experiences rather than the goals planned in educational organizations (Dickerson, 2007); the hidden and unwanted messages transmitted to studens unconsciously (Leask, 2015); and a group of moral and norm-based learnings (Hopkins, Saciragic, Kim & Posner, 2016). Jackson (1968) describes this concept as expectations, rules, values and norms which are not written in the formal curriculum but students are expected to learn by their parents and the school administrators. Theoretically, Skelton (1997) examines the hidden curriculum based on the functionalist, liberal, critical and post-modern view while Lynch (1989) examines it based on the structural-functionalist and neo-marxist view. On the other hand Karanxha, Agosto & Bellara (2013) emphasized that hidden curriculum is related to critical pedagogy which has impact on discovery of the social functions in education. The most distinctive characteristic of hidden curriculum is that it is not written and it has a strong sociological aspect (Tezcan, 2003; Yüksel, 2004). Based on these definitions and explanations, all of the unplanned activities that have a positive or negative impact on students other than those stated in the formal curriculum can be defined as hidden curriculum.

The Scope of Hidden Curriculum

Hidden curriculum includes all of the unplanned activities other than the goals stated in formal curriculum. Since the scope of the hidden curriculum which differs according to learning setting (classroom, school, lesson and etc.) is too wide, to reveal the content of a hidden curriculum in detail is a challenging work (Alsubaie, 2015; Edwards, 2015; Yüksel, 2004). According to Jackson (1968, p. 10), three factors affect the learnings which are in the scope of hidden curriculum. These factors are (i) crowd, (ii) praise and (iii) power. Learning to live in a classroom means learning to live in the crowd. At school, many things are done together with others. When students are assessed by others (teacher, peers), they learn everything. This means that they learn how they should behave within the society by means of rewards and punishments they get. School is a place where the difference between the strong and the weak can be seen clearly. This is a definition of the strict aspect of inequality between the students and their teacher. Thus, students learn how to react to an authority. Accordingly, hidden curriculum becomes effective in equipping students with such skills as keeping silent, cooperating, continuing to study, being docile, being loyal to their teachers and classmates and being polite. Dreeben (1968) lists four major norms which are transmitted to students in school in the context of hidden curriculum. These norms are independence, achievement, universalism and specificity. According to Yüksel (2004), students learn to take responsibility with the norm of independence, to overcome a failure and reach upper standards with the norm of achievement and the behaviours based on equality of the individual with the norms of universalism and specificity. According to Hafferty & O'Donnell (2014), the rules, values and norms embedded in the organizational structure of the school and culture that support or confront to the formal curriculum are in the scope of hidden curriculum.

There are some studies which have been conducted to determine the content of the hidden curriculum in related literature. Some theorists have analyzed the hidden curriculum by discussing the factors of socio-economic and cultural differences, social class and gender and by correlating school with political and economical life (Apple, 2004; Lynch, 1989; Skelton, 1997). Besides, some studies have focused on the professional aspect and organizational culture aspect of hidden curriculum. For example, Gair (2003) examines the scope of hidden curriculum in teacher education programs in education faculties under the titles of culture, getting a profession and method while Ahola (2000) categorizes it in terms of higher education under the titles of learning to learn, learning the profession, learning to be a master and learning the rules. Beside these studies in the related literature, there are also a great number of remarkable studies conducted for assigning the dimensions of hidden curriculum in medicine and health education (Bandini et al., 2015; Hafferty, Gaufberg & O'Donnell, 2015; Haidet & Stein, 2006). For example, Tsang (2011) states that hidden curriculum in medical education is related to the matters of starting the profession, ethics, specialisation, being a role model and lidership. In their study Mossop, Dennick, Hammond & Robbe (2013) examines the components of organizational culture presented by Johnson, Scholes & Whittington (2009) as stories, rituels, symbols, organizational structure, control mechanisms and power structure by adapting them to hidden curriculum in the context of medical education. In this regard, professional and organizational culture may be claimed as an important component of the hidden curriculum.

On the other hand, the sources that have a role in occurance of students' unplanned learnings are also in the scope of hidden curriculum. Accrodingly, the scope of hidden curriculum is shaped around those three main sources (Yüksel, 2004, p. 57): (i) the managerial and organizational means and regulations of the school (such as the rules and architecture of the school and composition of the classrooms). (ii) interactions between the school and the environment (such as social norms and values). (iii) the athmosphere of the classroom (such as student's characteristics and gender and teacher's behaviors and prejudices). Matters related to morality, personality, values education and ethics are also learned in the scope of hidden curriculum as well as the formal curriculum (Çubukçu, 2012; Doğanay & Sarı, 2004; Yüksel, 2005). According to Tezcan (2005, p. 176), there are a lot of socio-cultural factors that enter the scope of hidden curriculum such as the behaviours, approaches, beliefs and values of teachers and administrators working in the school, the quality of the school atmosphere, the interaction sequence that the school setting offer to the students, unwritten rules in school, routines, discipline and obeyance to the authority.

Teacher Behaviors and Hidden Curriculum

While trying to help students gain the aimed values, norms and rules through formal curriculum in the classroom, teachers may be effective in occurance of unplanned learning situations which are not stated in the formal curriculum either being aware or not (Karimi, Ashktorab, Mohammadi & Abedi, 2014; Mosalanejad, Ghobadifar & Akbarzadeh, 2015; Yüksel, 2005). According to Previna (2011), teachers undertake an intermediary role in implementing the hidden curriculum of the school. The hidden curriculum is influenced by teachers' political, religious and cultural ideologies, preferences and attitudes, prejudices, opinions and expectations about students in learning process, the rules that they set up in class and the personal and professional characteristics that they hold (Yüksel, 2004). During lessons, even teachers' teaching styles related to topics which they internalize or regard as unimportant may change. For instance, a teacher who internalizes the principle of statism will teach it more enthusiastically while a teacher who does not internalize this principle teaches it in a more dull and superficial way (Yüksel 2004). In their study based upon in-class observations, Elitok & Kesici (2010) observed in the course of Revolution History and Kemalism that the teacher of the course mentioned topics related to Kemalism less, valued the rules too much and embarked upon the traditional structure of Turkish culture and that all these circumstances affected how the lesson was conducted.

Teachers' messages and reactions about morals or ethics are also related to hidden curriculum (Çubukçu, 2012; Mosalanejad, Ghobadifar & Akbarzadeh, 2015; Yüksel, 2005). In related literature, it is known that teachers display unethical behaviors such as being late

to class, leaving the class early, discriminating in their relationships with students, sharing their ideological views in the classroom, behaving students in an oppressive way, giving punishments, smoking in places open to students and threatening students with low marks (Elitok-Kesici, 2010; Pelit & Güçer, 2006). In their study, Altınkurt & Yılmaz (2011) observed that the most frequently repeated unethical behavior by teachers was that they did not pay enough attention to unsuccessful students. Hence, teachers' such behaviours may lead to occurance of unwanted behaviors in those students. Students' success states, names, genders, social classes, socio-economical conditions and ethnic origins are among factors which are in the scope of hidden curriculum and have influence on the differentiation of teachers' behaviours (Nelsen, 1981; Tezcan, 2005; Yüksel, 2004). Similarly, in the study conducted by Sarı & Doğanay (2009); it was seen that a teacher working in a school with a high life quality displayed the behaviour of respecting human dignity and equalty more than a teacher working in a school with low life quality.

Different from those studies above, Saldıray & Doğanay (2017) examined the notion of social gender in depth within the context of hidden curriculum in their study. As a result of the study, they found out that teachers reflected their gender-related stereotypes in their practices in teaching-learning process, those stereotypes varied by teachers' sexes, teachers unwittingly made sexist speeches and students internalized those hidden messages. In their comprehensive study in which they evaluated schools' sensitivity to social gender, Engin-Demir et al. (2016) found out that male teachers holded a more traditional viewpoint while female teachers holded a more egalitarian one. On the other hand, teachers' behaviours differ according to students who obey and do not obey the rules. In accoridance with this, it is possible to mention the impact of reward-punismnent mechanism. Students can learn that they will be punished and be exposed to physical and verbal violence when they do not obey the rules and that they will be regarded as beloved students by their teachers when they obey the rules (Adıay, 2011). While the students who obey the rules are viewed more successful, more obediant, more docile and better students, the students who do not obey the rules can be labelled as naughty, unsuccessful and bad students. In his study, Tuncel (2008) observed that teachers' behaviours were more influential than their words on students with respect to being a role model and that whatever is told and claimed in the class affected emotional characteristics of students. In addition, what have an important role in occurance of the hidden curriculum are teacher's addressing to students with their names and approaching style, the type, quality and level of the teacher communication with students, and their expectations from students (Lavoie, 2006; Yüksel, 2004). Giroux (2011) underlined the critical role of teacher in conveyance of the values in the socialization process of students in the context of hidden curriculum along with the formal curriculum.

In the event that teachers' expectations contradict with their behaviours, the impact of the hidden curriculum becomes more apparent (Yüksel, 2004). For instance, if a teacher who talks about democracy education including such concepts as equality, freedom and justice in class does not act in accordiance with this approach, then it may be said that there is a teacher-centered understanding where authority, oppression and discrimination dominate and students do not have a voice in the class. Similarly, teachers want students to gain high-level skills such as problem-solving and critical thinking. Even though these characteristics are clearly stated in the formal curriculum, it is seen that the importance is given to activities which make students learn the subjects by heart (Çobanoğlu & Engin-Demir, 2014; Yüksel, 2004). Accordingly, the significance of teacher behaviours in occurance of the hidden curriculum becomes apparent (Giroux, 2011; Yüksel, 2004).

On the other hand, written symbols, verbal or nonverbal messages, visuals, coursewares, videos and various learning objects that teachers use in lessons may be viewed as a means to establish the function of hidden curriculum (Adams, 2017; Hubbard, 2010). Especially, as the use of technology has become widespread in digital age, the relation of teaching technologies used in lessons to hidden curriculum has started to draw attention of researchers. Accordingly, unplanned learnings may occur in lessons by means of information and communication technologies. In addition, the ethical matters on the use of these technologies are also relevant to hidden curriculum (Adams, 2017). In the studies conducted on this topic, it was seen that teaching technologies and coursewares such as books, works of

art and visual materials may carry inexplicit and hidden messages that include a variety of codes and alghorithms (Adams, 2017; Anderson, 2001; Edwards & Carmichael, 2012; Edwards, 2015). Therefore, this present study focuses on hidden curriculum in a specific course about information technologies. As a matter of fact, both the evaluation of unintended outputs in technology education and the presentation of a concrete image by examining the hidden curriculum which is, in some way, the invisible part of the iceberg (Marina, 1999) in terms of effectiveness of learning in the context of teacher behaviours can enable making educationally remarkable inferences. Because teachers' reactions may have positive or negative impacts on students in relation to hidden curriculum (Alsubaie, 2015; Cotton, Winter & Bailey 2013; Hafferty & Gaufberg, 2017, p. 35). In other words, unintended and unplanned learnings that stem from teacher behaviours may not only contribute positively to the socialization process of an individual and the function of education but also cause the occurance of goals reversing to the formal curriculum by not recognizing the goals of the formal curriulum (Cotton, Winter & Bailey, 2013; Sönmez, 2008).

When behaviours that teachers display are taken into consideration as a determinant of the hidden curriculum, the significance of not ignoring them in studies of education and efforts of curriculum development gets more apparent. Hafferty & Gaufberg (2017, p. 35) state that the negative outputs of the hidden curriculum may not be completely surpressed but may be taken under control administratively within the process. In this respect, what the learnings that occur beyond the formal curriculum are and how and when they are taught must be identified in order to take measures against unintended learning situations (Yüksel, 2004). Studies on hidden curriculum are observed to be in restricted numbers (Adams, 2017; Edwards, 2015) while studies on information technologies in the scope of formal curriculum are met frequently (Çengel, 2007; Dursun & Saraçoğlu, 2016; Karakuş, Coşğun & Lal, 2015; Uzgur & Aykaç, 2016). In these studies, the focus has been on the instrumental function of technology within the context of hidden curriculum rather than course-centered approaches. In light of these explanations, it is aimed to evalute the in-class behaviours and the factors which are effective in occurance of these behaviours in the context of hidden curriculum on the basis of the opinions of information technologies teachers.

Method

It is seen acceptable to use the qualitative research methods beside relatively using quantitative research methods for this study since detecting the messages and behaviours repeated within the natural setting and analyzing the data deeply are recommended in the studies of hidden curriculum (Dickerson, 2007; Yüksel, 2004). In this way, remarkable messages, incidents and experiences can be detected within the scope of the researched topic related to the hidden curriculum. Therefore, from the qualitative research methods, the phenomonology research design which puts emphasis on participants' experiences was used in this study. In phenomonological design, the phenomenons that we encounter in daily life as incidents, experiences, perceptions, situations and tendencies of which we are aware but not have an in-depth understanding are examined (Yıldırım & Şimşek, 2016). In this design, the meanings set by the individuals or groups as a result of their experiences with this phenomenon are investigated to reveal the phenomenon that the study focuses on (Creswell, 2012). The phenomenon discussed in this study is 'the behaviours' that information technologies teachers display during lessons in the context of the hidden curriculum. To reveal this phenomenon, teachers' opinions about their own behaviours are examined in detail. Significantly, teacher behaviours can be observed directly within the classroom setting or be revealed based on student opinions. However, this present study focuses on teacher opinions since identification of the latent and contradictory factors that lie behind their behaviors by evaluating teachers' own viewpoints and inner worlds in the context of hidden curriculum are also thought to be important.

Study Sample

As there is a detailed and in depth examination in studies conducted in phenomenology design, a great many people should not be involved in these study (Yıldırım & Şimşek, 2016). Therefore, small sample may produce better results than a study carried out on a large sample (Karasar, 2012). In selection of the study sample, from the purposeful

nonprobablistic sampling methods, the criterion and maximum diversity samplings were used. In accordance with criterion sampling method, the criteria taken into consideration for selection of the participant teachers in this study are (i) being a graduate of Computer and Instructional Technologies Teaching Department of Education Faculty or Electronics and Computer Education Department of Technical Education Faculty, (ii) being teaching at a secondary school and (iii) attending the study voluntarily and willingly. In maximum diversity sampling, to ensure diversity, it is aimed to diagnose the types of similarities and commonalities among various cases instead of making a generalization for the population. In this study, in compliance with the maximum diversity sampling, care was taken to select the teachers who were working in schools with different socio-economic levels (lower, middle and high level) identified by the National Education Directorate of the city where the study was carried out. Because the hidden curricula of the schools in different socio-economic levels are prominently different (Saldıray & Doğanay, 2017; Sarı & Doğanay, 2009). In accordiance with this, the study sample consists of 15 information technologies teachers who work in secondary schools in a central district of a city located in the West Blacksea Region in Turkey. 11 (73.33%) of the teachers participating in the study were male, 4 of the participants (26.67%) were female and their avarage age was 30.46 (SS = 2.74). Only 2 of the participant teachers had a master degree. Years of seniority varied from 3 to 13 years. On the other hand, 5 of the teachers were from secondary schools with a low socio-economic level while the other 5 and the rest 5 were respectively from the ones with middle and high socioeconomic levels.

Data Collection

For collection of the data, semi-constructed interview forms prepared for teachers were used in this study. Semi-constructed interviews offer more flexibility to researchers than structured interviews; they allow to reach more details and explanations through the questions at the end. Making interviews with teachers in the present study is important in terms of also revealing open, latent or contradictory elements that lie behind their behaviours in the context of hidden curriculum. Therefore, in phenomonological studies, interview technique is frequently preferred by researchers as it requires using interaction, flexibility and probing through probes features that it offers to researchers in order to reveal the experiences and meanings with respect to the phenomenons (Yıldırım & Şimşek, 2016). According to Frankel & Devers (2000), the intentions, attitudes, perspectives, interpretations and perceptions of the participants are tried to be elicited in detail through interview technique.

Before preparing the semi-structured interview forms, the related body of literature with regard to revealing the hidden curriculum was examined. Since teacher behaviors are evaluated within the context of the classroom climate aspect of the hidden curriculum (Çengel, 2013; Yüksel, 2004), in the interview form, there are questions related to the circumstances about the hidden curriculum such as teachers' states of being democratic in the class, discriminating between students and being biased; their messages about social, cultural, ideological values and school identity, their state of being a role-model, and commucitaion with students. In the preparation of interview questions, opinions about scope and appearance validity of the form were obtained from a total of 8 faculty members 4 of whom have at least Ph. D. degree in Educational Programs and Teaching, the other 2 in Assessment and Evaluation and the rest 2 in Computer and Teaching Technologies Education. In addition, the suitability of the questions in terms of language was checked by two linguists and pilot interviews were made with two information technologies teachers out of the study group for clarity. The necessary corrections were made and the final form was given to the interview form consisting of eight main questions.

The interview form consists of two parts. In the first part, questions about participants' demographic information (such as gender, school name, seniority, graduation, e-mail) are included. In this part, there is also a section including general explanatory information (date, time, etc.) about the interview. In the second part, interview questions are included. Interview questions are designed to get detailed information from the participants, not to say yes or no. Some of the interview questions in this part are as follows: (i) How is your

teaching style (authoritarian, collaborative, democratic, etc.)? Which methods and techniques do you use predominantly in lessons? How is your behaving and approaching style to your students? (ii) How do the individual differences (such as socio-economic status, achievement status, gender) of students affect your behaviors in the class (such as methods, communication)? (iii) Which of your personal opinions, thoughts and values do you reflect in your classes?

Importantly, with respect to the evaluation of teacher behaviors in detail and the identification of the elements that motivate them to do these behaviors participants were asked to answer plenty of questions at the end of the form such as "Can you give an example?", "Can you criticize yourself in this matter? ", "What are the reasons for your such directions?", "Can you give an example to the slang words you use? ", "How do these problems affect your expectations?", "Do you use licenced softwares on your own computer?", "What it your reason for displaying this behavior?", and so on. Permission was obtained from the relevant Directorate of National Education in order to carry on the research and interviews. Before the interview, the appropriate place and time were planned for the participants and interviews were conducted face to face in the laboratories of information technologies or teachers' rooms. During the interview, an audio recorder was used with the permission of the participants, and notes were taken by the researcher. To ensure that the voice recordings are clear and understandable a professional device was used during interviews. The participants were given the confidence that their personal information would be kept hidden and that the interview data would not be used for any purpose other than the scope of the research. Face-to-face interviews lasted approximately 30 to 90 minutes.

Data Analysis

The data obtained from the interviews in the study were analyzed by both descriptive and content analysis methods. In descriptive analysis method, the data are summarized and interpreted according to the previously determined themes. These themes can also be arranged according to the research questions or the questions used during the interview (Yıldırım & Şimşek, 2016). In this respect, some interview questions in the form were prepared in accordiance with the scope of the hidden curriculum in the context of the related literature. For example; the question on the interview form "What are the activities that you implement for students to adopt the identity of the school?" was established in relation to the pre-determined "school culture" theme. In content analysis, the main goal is to understand the explanatory concepts about the data and the relationships between them. This analysis allows for the emergence of themes that were not specified beforehand. In addition, the data summarized and interpreted in descriptive analysis can be passed through a more detailed process by content analysis method. (Yıldırım & Şimşek, 2016). Thus, concepts and themes which can not be diagnosed with descriptive analysis can be discovered as a result of this analysis. Therefore, messages which are hidden within the data can be revealed in this way.

In the first phase of the data analysis, the audio recordings and the notes taken during the interviews were converted to a 142-pages script in the computer environment (via MS Office program) by giving a code number for each teacher such as T1, T2, T3 and so on in order not to decipher their identities. While this process was being conducted, the statements of the participants were quoted directly without altering any expressions. The texts were re-read several times and their equivalents were conceptually coded to constitute meaningful wholes. After this phase, similar and interrelated codes were combined to obtain themes. In the last phase, the findings were explained and reported in detail and interpreted in the light of the related literature.

Validity and Reliability

In assurance of the validity and reliability of the study, attention was paid to ensure the characteristics of credibility, transferability, consistency and verifiability (Yıldırım & Şimşek, 2016). In the efforts to increase credibility of the study, long-term interviews were tried to be done by creating an environment of deep trust to obtain more sincere answers from the participants. Since there might be some periodical changes in the collected data,

interviews more than one were made with some teachers. Findings were directly supported by quotations from the participants' statements. In order to ensure the transferability of the study, the research process (research model, data collection tools, data analysis, etc.) were described in detail and systematically. In addition, from purposeful sampling methods, criterion and maximum diversity sampling methods were used in the selection of the study sample. With regard to verifiability, the audio recordings, raw data and encodings in the investigation are being kept by the researcher to allow for the review by those concerned. Besides, the results of the study and the validity of the raw data were examined by two expert researchers, and the accuracy of the audio recordings which were converted to scripts was verified bye-mailing to the participant in accordance with the research ethics. Coding in the research was carried out by other two researchers together with the researcher. In order to ensure the reliability of the study in this sense, the coherence value (Cohen's Cappa coefficient) was calculated to decide whether the study provided a consensus among the coders or not. The Cohen kappa value (k) shows a poor level of compliance when it is between .21 and .40, a moderate level when it is between .41 and .60, an adequate level when it is between .61 and .80, and a good level of compliance when it is between .81 and 1.00 (Altman, 1991). In the present study, the value of k was found to be .84, which indicates that there is a very good level of consensus among coders.

Researcher's Role

Although the role of the researcher in qualitative research differs from quantitative research, researcher is the person who directly observes the study sample in its natural environment, inteviews them and experiences the same situations of the study sample when needed (Yıldırım & Şimşek, 2016). This means that the researcher himself/herself also functions as a data collection tool. In this research, the researcher took responsibility for planning, conducting and evaluating the study correctly and reliably. In the days and hours previously scheduled with the participating teachers, they conducted interviews without violating the course order. Throughout the interviews, an ethical approach was adopted and the situations that might adversely affect the data collection process were avoided. The researcher analyzed and reported the data obtained from the interviews.

Findings

After the analysis of the research data, teacher behaviours in the context of the hidden curriculum were divided to seven sub-themes, namely "power and authority", "prejudices and discrimination", "narratives", "communication", "role model", "getting a job" and "school culture".

Power and authority: This sub-theme emphasizes that the teacher views himself/herself as an authority in lessons and adopts a teacher-centered approach. The student's obediance and respect to the authority and the press, and the emergence of the sense of fear against the domineering powers are also related to the sub-theme of power and authority. As a result of the interviews, most of the teachers stated that they wanted the students to be respectful, (n=14), be docile (n=12) and to obey the rules (n=9) verbally. The following quote is a teacher's statements related to these findings:

> *"The important thing I want to see in a student is respect, once respect is ensured, the rest comes. I'm talking about the fact that student should respect their teachers. The fact that teachers are not respected is, now, one of the most important shortcomings of our day. As a teacher, you cannot scare the child as teacher's many rights have been reduced. When you say something, you are found guilty... When a teacher enters the classroom, he/she has an authority. The pupils have to do what the teacher says and the teacher must have some authority. Otherwise, the student starts to ignore and disrespect the teacher after a certain time. So, sometimes it's time to take over a little bit of authority. As you approach the students to some extent and have a good teacher mode in the class, they use your this weak point, abuse your emotions and try to make you do what they want." (T1)*

The teacher coded with Ö13 explains his/her opinion about the fact that students can learn not to be docile, not to obey the rules and not to listen to the teacher and the lesson in accordiance with their interests since the teacher is not authoritative in the class as follows:

"Because the lessons are in the laboratory, students are more engaged with computers there. the design of a computer laboratory is in the form of horseshoe. The students have to turn their bacs to me. Because of this, the students get sometimes disconnected with the teacher and talk to the friend, and they are distracted by the computer. There are two or three studens on each computer. Most of the time there is a buzzing noise in the class. I do not like this at all, students can not listen to what I tell. So I often have to warn them about looking at me and turning to my side... I want them to do what I say... I have my own rules... The students will not do anything on the computer, they will not talk to other students, they will only listen to me. Otherwise, if they are allowed to be free, some of them will play games on the computer and the others will surf the net." (T13)

It was seen that some of the teachers have set their own rules in the laboratory. In this respect, some teachers stated that they display behaviors such as resigning computers to the students (n=3), punishing the students that give any damages to the computers (n=2), keeping watch in the laboratories during breaks (n=1).Taking into account the teacher's dominance, students may be subject to a severe reaction from their teachers if they do not obey these rules and receive punishment if they do not listen to the lesson. As reference to these findings, the statements of the teachers are as follows:

"I set the lab rules. I debitted each computer to whoever was sitting at the desk in each class. I wrote their names. When anything happens to the table, the computer or the mouse, I ask that student to account for it or every day a keyboard or a mouse breaks down. I can not cope with it. In breaks, a student from the previous class is on duty in turns every week. By this way, the sense of responsibility develops in students." (T13)

"Sometimes I get annoyed with and shout at those who do not listen to me, romp in their desks and damage the computers. As punishment, I do not allow them to use the computer in that lesson. As they know this, they keep silent of necessity... I have a firm personality, they become silent right after I shout at them. What else can be done? Since the course does not have a marking worth, the students feel secure. It's like a game lesson for them... they often ask me when I will let them play games on the computer or when I will set them free. If they are allowed to play games for a few times, they get used to it and want it all the time. They even praise you saying "you are a very good teacher, we love you a lot, we wish we had more classe and so on." (T8)

Rather than a democratic environment, teacher's applying his/her own rules about both the class system and use of the computers and resorting to verbal violence can be described as an authoritarian behaviour. Students can learn that they may encounter various sanctions if they do not obey the rules set by the teacher. On the other hand, the system of the computer laboratory, the impact of technology on students, and the lack of marking value of the course lead to the emergence of learnings such as behaving comfortably and not taking the teacher's behaviours seriously. 9 of the teachers expressed that they conducted the lesson relatively away from student-centered understanding. For example, explanations from two teachers are as follows:

"In order to catch up with the curriculum, I teach the lesson and let the students practice it. Sometimes, I do have to use the break because the lesson duration is very short... I usually make a presentation in the lesson and then the children apply the things that I have just told on their computers as long as they can." (T6)

"As a method, I can say that I do not use much the active learning methods or such interesting methods that appeal to children. I mostly teach via projector and then the students do what I have told them on their computers... They obey the rules, and now that they have learned my style. They have to obey. After all, the teacher must certainly have an authority." (T15)

Although theoretically, the curriculum of the course adopt a constructivist approach that put the student in the center, in practice, it appears that teachers prefer methods and techniques that do not put the student in the center. The fact that the teacher-centered approach is dominant requires the students to comply with their teacher's beliefs and thoughts, much more than their own wishes and needs. Students are not able to use creativity and curiosity while learning to memorize knowledge in these settings and to be dependant on outer sources and away from productivity. In relation to the sub-theme of "power and

authority", some teachers (n=5) reported that they could not threaten students with exam grades and this weakened their authorities. This situation can cause students to feel comfortable and not to care about the lesson. As an example, the teacher coded with T2 expressed his/her opinion as follows:

> *"Our lesson takes place one hour a week and have no grading value. There is a curriculum that we have to apply ultimately, and the child is miles away from the class because he knows that there is no grading value of the course. The child is irrelevant as he/she knows that there is no necessity to learn the parts that the exam will cover. This upsets me and I can not make the students mind me. But if there were a valid mark, you can intimidate the student and thus they show interest in the lesson... The student wants to have high marks. When the student behaves pertly or confronts to you, you can lower the grades or give a minus and have a power of sanction. Only then, the student makes what I say."*

Prejudices and discrimination: This sub-theme is related to the behaviours that teachers exhibit in a biased and discriminatory manner according to certain characteristics of the students. Teachers underlined that they mostly favoured the students who were successful (n=11), predisposed to information technology (n=9) and obedient (n=9). As a reference, some teacher opinions are given below.

> *"I teach in different ways according to the classes. I do not know whether this means discriminating. To give an example, in this school 6-C is a successful class full with selected students. I have lesson with this class on Friday afternoon. I wish friday came quickly and all my classes were like that. I like the class 6-C very much. The students in this class not only do whatever I tell but also are very hardworking. They are all wonderful students. The lesson in this class is very enjoyable, this relieves me from the tiredness of the whole week... Lessons are more productive, it is fun to teach there... Of course you are more soft-mannered in this class, I do not get very angry. I also teach the class 6-F, and I teach them on Tuesdays. They are so spoiled that I drag my feet while going to the lab. Everyone is biased about this class. Do you believe that an hour lesson seems like a whole day to me? Other teachers complain too. Everyone fulminates against 6-F class." (T11)*

> *"I am more closely interested in students who are predisposed to technology, software and hardware. It is a truth that I care for them more closely. I can call this positive discrimination. Maybe because of this field, we have interests in common. Children who are open to development are more interested in lessons, they are constantly asking about anything in breaks, they show themselves." (T7)*

In addition, 4 of the participants made explanations that teacher behaviours differentiate according to the life quality of the school and the socio-economic status of the students. Examples of some participants' opinions in this direction are as follows:

> *"The parental profile of the school in which I work is high. I the school, Students' parents are mostly doctors, teachers or businessmen Therefore, there is a parental pressure on the teachers. I feel this pressure on me, as well. Especially mothers are always in the school. A teacher, my friend, shouted rightly at the student and the student immediately complained. So, my friend went through an investigation. Of course you get demoralized when you see these incidents. Neither the school administration nor the National Education Directorate is on your side. As this is the case, you have to behave the students more carefully." (T13)*

> *"You can teach something to those who are willing to learn. Efforts for others seem to be in vain, because there is no progress in the child even if you care about her/him at the beginning. The child has family and financial problems. He/she is thinking about other things during lesson." (T12)*

> *"I used to work in a school of high quality before. This school, in which I work, with is a suburb school, the economic situation of the families is not good, most of them work at minimum wage. So, it seems as if they do not have many expectations. As such, you do not pay attention to students in lessons. I do not bother much, as it will be in vain. Even the simplest thing is interesting to students. Some of them do not have a computer at home... I observed the lack of self-confidence in children. I have such a student who is afraid of breaking the keyboard or the mouse in the lab." (T5)*

From these explanations, it is understood that teachers care about students in schools with a high life quality and socio-economic level much more whereas they conduct the lessons more superficially and in a teacher centered manner in schools with a lower socio-economic level. In addition, teachers' behaviors are shaped by the expectations of the administration and the parents. Moreover, some of the teachers reported their opinions on the fact that they favoured male students (n=2), and the students who were engaged in sports and art (n=1). Therefore, students can develop learnings such as being behaved warmer by teachers or receiving higher grades when they are successful on a field. Statements of some participants that support these findings are as follows:

> *"This school is a good school. After all, everyone has an expectation. Parents want their children to get a good education. Our director is constantly telling us to do projects and different activities. He loves to make a name with bombastic things. I constantly direct children to projects and competitions related to information technologies and support them." (T7)*

> *"Some of the students are engaged in sports and art. These are priorities for me. Sometimes I assign performance works to these students. I give more points to them. You become more sincere towards them. After all, they have talents. For example I have a naughty student in the class, but he/she plays football very well. He won prizes, too. Naturally, I behave this student in a different way." (T9)*

Narratives: This sub-theme is related to teachers' unplanned statements and reactions to ethical and ideological issues as well as to the social and historical values. The"narratives" theme was discussed in two dimensions as "social and moral" and "ideological". Based on the opinions of the teachers, it was identified that they conveyed messages and made narratives mainly about the "social and moral" dimension. In this direction they emphasized that they told about their and others' life stories and experiences, had the students watch short videos and movies, warned and directed them to cultural events. Some teachers' explanations in this regard are as follows:

> *"A young generation who is getting more and more alienated and taking Europe as an example is coming. I warn about our culture from time to time... I say that we should kiss the elders' hands at the feast, because this is almost forgotten. We have to eat together at the meals. Because those things are what I have experienced and what I consider important... I often recommend films with good educational content. If I could, I would have the students watch such films every lesson, but the duration of the lesson is very limited. But I get them watch short videos There are impressive and pleasing short videos about humanity... Children love animation movies at these ages. Actually, I wish there would be animated movies or videos that tell us our values in a funny and sympathetic way." (T12)*

> *"Our ancestors have fought in these lands. We owe to them a lot. So, I tell them to love the country and the nation and how valuable our martyrs and veterans are... Of course, also social sciences teachers and others are certainly teaching all these. But these are the subjects that all teachers should talk about from time to time. Besides, we have social values. For example, I tell that there used to be a sense of sharing and what happened in the Ottoman period. I tell them that we are so compassionate and that our land has grown so much because we were not racist and discriminatory. We are talking about a nation that opens its doors to everyone." (T7)*

> *"Teaching is not only teaching your lesson. Our most important function is to make students feel that education is value-driven. I like talking about life in the class. I also tell about the lives of people who have left a mark on our lives. The closest example is our godfather Izzet Baysal, who is the symbol of goodness. Izzet Baysal is the most important symbol and value of Bolu. He had his school built. I wish our students would grow up and be like these people. I share the meaningful words of these valuable people. These people are also a value for us." (T2)*

It is remarkable that giving examples from lives of well-known people and of others and using visual materials that create awareness are more effective than direct teaching in adoption of moral and societal values by students. The T3 coded teacher pointed out that s/he

directed the students to a charity campaign organized by him and as a result this campaign attracted the attention of the students and created awareness. Contrary to this view, the following expressions obtained from the teacher with the code T9 are remarkable:

> *"Giving examples directly from my life about topics such as goodness, benevolence and justice is a little ineffective. Saying 'I have done a favour, I helped someone.' may lead students to make different inferences. So sharing something from the lives of important people about that topic can leave an impact. For example, while talking about the concept of justice, one of Hz. Ömer's sayings and a short film or video about benevolence, goodness and respect in our culture, perhaps, are more impressive. Somewhat emotional things can be more effective in assimilation of these concepts by children... I direct them to activities inside or outside the school that promote our culture and I also share it on our school website."*

In relation to the "ideological" dimension, it was found that the teachers made religious (n=5) and political (n=2) speeches. In this direction, it was observed that the teachers guided the students either being aware or not according to their own ideological thoughts. As an example, some statements from the participants are as follows:

> *"I never open a political topic... But -because I am sensitive to these matters- I tell, talk and give examples in order that students can be a religious person. During lessons I sometimes tell that Allah has created these things, and that our religion instructs us not to do evil and that we must be good people... A faithful student who knows his/her religion will not lie, s/he will be honest." (T5)*

> *"I congratulate the days of the students at the beginning of the lesson on Qandil and religious festivals. I make a short speech. I try to imbue them with the need for unity and being together. Even if there are students who do not speak to each other in class, I want them make peace." (T12)*

> *"Sometimes I talk about the state of the country and the future. Even if I do not go too far into the administrative issues, they are mentioned incidently. I do not give a name directly by saying s/he did so. But sometimes I talk about the negative incidents on the agenda. Depending on the way you talk, you may sometimes need to tell these to the students so that they can question the incidents and take lessons from them." (T3)*

The teacher coded with T13, ethically, bases the students' not using the nasty websites, not hacking and not tending to violence to religious beliefs. This may be effective in improving unplanned learnings in students. Teachers' statements in this direction are as follows:

> *"I think, violent games and movies are troubled. They change the personality of the student... I explained it is not appropriate to steal other people's information in virtual environment as much as the real theft. First of all, I told them that it was not acceptable in our religion. I think, the religions actually say the same things as these moral situations... The same thing is true especially in the case of sexual-content sites, they can not enter those inappropriate websites at school but they can enter such websites at home..." (T13)*

Communication: This sub-theme emphasizes the unplanned activities that emerge from verbal and non-verbal reactions and interrelations of the teacher and the students in order to understand each other. On the basis of the teacher opinions, this theme is examined in two dimensions as "positive communication" and "negative communication". Teachers' opinions were found to be mainly related to the dimension of "positive communication". In this direction, teachers expressed that they mostly listened to student requests (n=8), and behaved cheerfully (n=7) and sincere (n=7). In addition, some of the teachers also pointed out that they empathized with students (n=5), addressed to students with their names (n=4), approached them like their friends (n=3), give importance to body language (n=2) and made eye contact (n=1). Teacher views that support these findings are as follows:

> *"I usually have a smiling face. This is the way I approach my students. I usually listen to their problems and try to find a solution. We need to be friends with students. I feel they love me, too... Especially in some classes I feel it more. It's different when emotions are mutual. I think this job absolutely has an emotional side... A student should love the teacher in order to love the lesson." (T1)*

At this dimension, it appears that the teachers take a positive approach towards the students. As a result, students may feel that they are valued and minded. On the contrary, the negative communication established with the student can lead them to be frightened by the teacher, to see themselves as worthless, not to be able to express their feelings and thoughts freely. As a reference to these explanations, the opinions of the some teachers are as follows:

> *"If you do not communicate positively with and care for a student, the student will not respect you and s/he will ignore your views... Teachers should not be too harsh to students. It is best to have a feeling for them while approaching..." (T5)*

> *"In a secondary school age when children step in adolescence, children can be a little bit emotional. We need approach them in a careful and empathic way in this phase. Otherwise you cannot find a solution by shouting and scolding. They do not like you in this way and if they do not like, you they will not like the course, too." (T13)*

In terms of the dimension of "negative communication", teachers mostly expressed that they behaved the students harshly and communicated with them by shouting. These situations may lead the students to develop negative attitudes towards the teacher. However, some of the teachers also reported that they acted in insulting (n=5) and disregarding (n=3) manners towards the students. The participant statements supporting these findings are as follows:

> *"Teachers should not indulge students. It is best to keep a distance between you and the students. Otherwise, it is hard to cope with them. If they find out your slightest weakness, they try to make you do whatever they want right away. You need to show a harsh mood. The IT lab is not like the class, it is both small and crowded. There is a lot of noise and chaos... If you let them be free, they want to play computer games all the time. They will surf on the internet unnecessarily. I know every one of them is a computer engineer when asked, but they do not use it consciously... Sometimes I do not let them use computers in lessons. I make explanations and inform about the mistakes they make while using information technologies." (T9)*

> *"I don't care about spoiled students. I apply the technique of ignoring when those ask anything. Obviously, those students do not make any efforts or do nothing. They come to class aimlessly. They do not do the homework that I give or even if they do homework, they do it either carelessly or reluctantly. I don't take such students very seriously. Because, you know what you're doing is in vain." (T13)*

Role model: This sub-theme is related to the teacher's behaviors about the ethical, moral, and social values that set an example for students. In this sense, most of the teachers (n=12) criticized themselves that they set more negative models for the students. Specifically, 7 of the teachers explained that they set bad examples mostly because of the fact that they did not comply with the principles of information ethics. As a reference to this finding, some teachers' opinions are as follows:

> *"You may talk about information ethics in lessons, but this topic is a bit critical. As a teacher, for example, you tell that software, movies, games and etc. have a copyright... But, we obtain many unlicensed and illegal programs by theft -for example by cracking- in order not to pay money on the internet. I do that, too. Actually the circumstances force us to do so. There is already a system for doing this. You think, 'Why shall I pay money?' ... But even if I know that it is not ethical, I still tell the children that they may find a game cracker on that website. It sounds like I did a favour for them. But it's not ethical." (T4)*

Even though I do not wish to do so, there may happen differences between what I say in the class and what I apply in my own life in this regard. It is difficult to prevent piracy. Whatever we say about downloading games and movies free on the net, I am not sure about how effective my words are on students as I do the same thing. (T4)

> *"I was showing the students a video about computer crimes and ethics. Then, while I was talking to the class, I told them to use the original Office programs as an example. One of the children said, "Teacher, people around me never use the original one, how shall we pay for every program? Do you use the originial?" Sometimes, I also do not use original software. Therefore, you hem and haw. Of course, even if I say that the unlicensed software they download may have a virus inside, it is difficult to convince the*

students on a matter that you do not approve... As I did not use the original software, I closed the topic immediately." (T2)

Verbal or non-verbal behaviors of teachers in the class can be a negative example when they are different from their practices in real life, which can lead to the emergence of unwanted learning situations. Thus, it can be said that the behaviors exhibited in daily life and in the class are inconsistent and adverse. Eight of the teachers expressed supportive opinions in this sense, and some of their explanations are as follows:

"I smoke and I tell the students that they should not smoke. Of course, you can not fool kids, we're deceiving ourselves. Of course, I do not know how effective it is... They also see me smoking outside of the school in breaktimes. I know I am a negative example." (T6)

"As a lady, I like to be well-cared. Sometimes I can exaggerate the makeup. You forbid students to have make up at school. You warn in the class or even get angry. But female students can see your make up, too. Even once, my student asked me something about makeup... No matter how much you ban or say that it is not suitable for their age and that they seem ugly with it, they try to take you as a model." (T4)

"I especially warn them to use our language more precisely and correctly in social networks and the virtual environment. I give information about the accurate usage of some incorrect expressions... There is a tendency to alienation in children too much... Unfortunately, the problem is that I use foreign words in social networks or messages. I am not careful about this, either. This is the truth. You tell the students "you should say or write in this way, you should use our Turkish accurately in your correspondences for example on Facebook. But you continue to do the wrong thing yourself. I am against westernization, actually I am uncomfortable with it, but we are also included as teachers in this. Unfortunately, I can be a wrong model. I also sometimes use a little bit slang in my comments due to sincerity. It is also possible that I misuse the language and therefore students may take these wrong usages as an example. Everyone may have faults. In real life, you can be different from school life." (T14)

As a computer teacher, I am crazy about playing computer games... I play also games containing violence or games that are unnecessary to me at all... I tell the stduents not play them during lessons. I do not know if it is because I am a computer teacher or not, some students come and ask me questions about a game. I tell them what to do or the shortcuts. (T5)

However, some teachers stated that they could be a negative model for students because of their behaviours of late coming (n=3), being offensive (n=2), not using Turkish well (n=1) and not being social and cultural (n=1). As an example of these findings, the following teacher views are shown below:

"Teachers of information technologies in the school generally do technical works, too. There were times when I was unintentionally late for classes. The manager wants something, the teachers may have a problem. You have to do it as a formatter teacher. Coming late to lesson may also affect students. They may think that they can also come to class late. So, what can you do if the student also comes late for the lesson? They may misunderstand each time... You can not set many rules so that students shoul not arrive late. Surely, students must be punctual, they should come to class on time. But I cannot get annoyed with a late-comer student because I also do it myself compulsorily." (T8)

"I usually have an angry and harsh mood. Some guys say to me " Teacher, you look like Polat Alemdar". There are people who say that I am charismatic. I think, I have a style like that especially while talking. I hope they do not take me as a model in this mood... Sometimes, I can talk in a firm way to the class, I can break their hearts. A cold air settles in the classroom... If I need to criticise myself, I am unfortunately not very sociable. Students love different and talented teachers and they approach them differently. Unfortunately, this case is the same for computer teachers, too." (T13)

Most of the teachers in this study (n=12) stated that some of the features they had might be negative examples for the students, while others (n=5) explained that they could be positive examples.

"For a student, to take the teacher as a model is only possible with the teacher's real

and sincere behaviours. The student feels it when the teacher is not sincere or try to make something that he did not do seem as if he did it. The teacher's behaviours in real life reveal such unsincere situations. If a student sees a teacher smoking outside the school, s/he may take this behaviour as an example. If the student hears you using slang, s/he may use slang too... So, the student should trust his/her teacher. If students are involved in a dilemma about their teacher, their trust will be broken and this will damage their relationship with the teacher. On the contrary, if the student sees that you are doing something good such as helping someone, s/he may take your this feature as an example." (T5)

It can be said that the student takes the teacher as a role-model according to the sincerity and reality of the teacher's in exhibiting behaviours. At this point, it is important for the students to feel the behavior of the teacher and to connect with it. Some competencies that teachers have may be effective in students' manners of approaching**.** Some positive teacher opinions are as follows:

"I give examples from my own life. Of course, I expect them to take my good features as examples. Students see their teachers and friends at school much more than their families. In order to be a good example to them, it is necessary to speak in the same way with them. We need to establish a sincere relationship with them. We need to have a close but a little distant relationship... You can be the idol of the child... The most important thing here is that you should improve yourself first. The teacher, who has developed himself in the field and social activities, draws the attention of the student. S/he admires you later... Right at that moment, you can contribute to the student in the sense of human values and moral values." (T3)

"The teacher must be excellent. We all have weaknesses. The student takes good, creative and different teachers as a model... We all have the following thought. "Wow, what kind of teacher is s/he? S/he has an ability or knowledge in relation to every subject". I am trying to improve myself in every way. I'm trying to open up my horizon so that I can open up the horizons of my students. Of course, academic knowledge is accomplished to a certain extent. The primary aim of education is to teach them goodness, values and morality. But, no matter how much you tell them to be honest, you can not achieve this only with words. Once, the student will see the example in teacher. As I like reading books, I note down the interesting examples from books and tell them to children in class... I bring visual samples and interesting incidents from technology magazines to the class... Apart from our course, the student can interpret this as the teacher's reading a lot of books... We can arrange aid campaigns... If we lead these campaings well, we can be good examples in every subject." (T13)

Some of the teachers (n=3) stated that they displayed behaviours to adopt the culture and values outside the school, and in the lessons they shared these experiences with the students and tried to be a good model of the human being. As a reference to this finding, the statements from two teachers are as follows:

"I explain the interesting events that I have experienced about the subjective use of our language in the class. Our culture is getting corrupted, we always use the examples of foreigners... To exemplify anything, I give examples from our history and past events. I share my reactions with the students so that they they take a stand towards the values we have been losing day by day... Especially I expect them not to ignore situations against our national values in social networks related to my course and to share our history and what we have forgotten... Yes, sometimes I convey messages through my shares." (T11)

"There are a lot of things I do not know about my history. I cannot adopt our values one hundred percent. I am trying to raise awareness of them to a certain extent. How much effective can I be only with things- the incidents I share and behaviours I display- that I occasionally mention in one-hour lesson? I think it's even a success to raise awareness about something like this." (T3)

Getting a profession: This sub-theme emphasizes the unintended messages of teachers related to praising, deteriorating and guiding his/her own field, teaching profession and other professions. Most of the teachers (n=8) gave the messages mostly about the economic contribution of the field of information technologies. On the other hand, some teachers (n=7)

reported that they directed their students to professions related to their field, while others (n=3) pointed out that the teaching profession was worthless. Examples for participant opinions related to these findings are as follows:

> *"Knowing computers is important for hiring an individual, and if they use information technologies after they start working, their work becomes even easier. In professional sense, I am trying to improve myself on this issue for future and so I praise my field." (T8)*

> *"Because of my branch, I direct my students to computer related professions. Computer-related professions are promising professions. There are many side branches of computer field. No one will stay jobless in this field. If someone is a good software developer, then he/she can make his/her own money everywhere as long as he/she improves him/herself. If I knew then what I know now, I would improve myself on software. It is promising. We use a computer-based thing everywhere in life... The richest people in the world are the ones who deal with the information sector... I share the inspirational stories of important people like Bill Gates and Steve Jobs." (T5)*

> *"I advise this field only if the student will be a computer engineer as our job is worthless. At school, your have to do all the work about computer. You can not do your teaching profession. It has become worthless, everyone understands from the computer... You are not even a teacher. For example, I direct them to the health sector... I direct them to professions that they can find jobs and earn money." (T4)*

It can be said that the teachers guided the students in professional sense according to the economical state and emphasized the importance of the field of information rather than their own profession and that the students might develope unintended learning outcomes in this direction as some participants considered the teaching profession worthless. It was also seen that teachers were guiding students according to the needs of the age and their own viewpoints mainly because of the financial gain of a job rather than students' own preferences in professional sense.

School culture: This sub-theme emphasizes the verbal and nonverbal (such as visual and spiritual values) reactions of the teachers towards the items that form the identity of the school (its history, symbols, and unique qualities). In this respect, some of the participants expressed that they directed students to school activities in lessons (n=5) and had them prepare logos, brochures and videos for the presentation of the school (n=2). With reference to these findings, the opinion of the teacher T5 is as follows:

> *"Our school is a successful and renowned school. So there is a successful athmosphere at school. It ranks among the top three in our city... It has an important place not only in academic achievement but also in fields like sports and art. Everyone, families and teachers are aware of this... Under these circumstances, students are impressed by this situation is, even as a teacher I am impressed, too... Teachers are trying to maintain this athmosphere... In fact, the school atmosphere has an impact on the students. Therefore, I make students who are new to the secondary school do activities that I can introduce our school in order that they enjoy this air. For example, I once got the logo that best symbolized our school to all classes. I made them create a video about the school in Proshow programme. We organized a contest on our website and gave a small prize to the most voted one."*

Based on this explanation, it is seen that computer software is used as a tool in adopting the school identity. Besides, some of the teachers stated that they aimed to make students adopt the school (n=3) and to increase their sense of belonging (n=2) by means of the student activities that they planned. Statements from the teachers who support this explanation are as follows:

> *"I always try to make an example activity about my school while having students practice... Some students come up with very qualified and beautiful works... I want them to know our school, every school has a system and a success. It has a different aspect from other schools. Students need to adopt the school and understand this." (T6)*

> *"I want students to participate in contests or something else, as long as I have time. If we had a project and success about information technologies at our school, it would be great." (T11)*

"I'm talking about the success of our school düring lessons. We are a successful school, and your behaviors out of the school is also representative of our school. The director says this all the time... They are already proud that some of the children are in this school... This school adds values to students." (T13)

It is seen that the activities for creating a school culture are many more in schools that are successful and have a high vision than others. For example, the statements from two teachers are as follows:

"We have basic principles and a vision: To be the best in any case, not only in the exam of TEOG (high school exam) but also in chess, futbol, volleyball and etc... There are no unsuccessful students, we aim to increase the success and to make students enter a good high school by reaching every student... The fact that the school has an organizational structure, increases the contribution of everyone." (T14)

"This school is not a very successful school... It is a suburb school to some extent... I do not make students do something about our school during practices much. It counts for nothing to the students even if I make them do school-related practices... Some of them look forward to the end of the lesson and going out." (T7)

In addition, the T12 coded teacher described the impact of school website and social networks on the adoption of school identity as follows:

"The school website and facebook page are under my control because I am a computer teacher. I upload the announcements and the visuals on them... For our school, it is important to keep these platforms active. I always direct the students to follow these pages, it helps the student to be acquainted with our school much better. There is a school history on them. For example, we always upload photos, success stories and etc. We use the technology, in a sense, to disseminate the vision of the school to the students... I try to keep these areas active al the time. We announce the school's advertisements and successes here... I inform the students with regard to making contributions to these shares here... We publish successful students, classes, sports achievements and etc on the page. We reflect the successful identity of the school in this way."

The same teacher reported that he/she created a visitor book and suggestion box on the internet and that these people shared their opinions about the school. This demonstrates that the students' and other visitors' opinions are valued.

Discussion, Conclusions and Reccomendations

In this study, seven sub-themes for assessing the in-class behaviours and the factors affecting the emergence of these behaviours in the context of the hidden curriculum were determined on the basis of the opinions of the information technologies teachers. These themes were "power and authority", "prejudices and discrimination", "narratives", "communication", "role-model", "getting a profession" and "school culture". Similar dimensions were given place also in some other studies that showed the scope of the hideen curriculum (Johnson, Scholes & Whittington, 2009; Mosalanejad, Ghobadifar & Akbarzadeh, 2015; Mossop et al., 2013).

In the dimension of "power and authority", it was seen that most of the teachers wanted the students to be respectful, comply with the authority and obey the rules. Some of the teachers stated that they ignored the requests and opinions of the students and set up their own unwritten rules in the laboratory except for the written rules and they showed behaviours such as resigning the computers to the students, punishing the students that give any harm to the materials and making them keep watch in the laboratories at breaks. Rather than a democratic environment, it can be described as an authoritarian behaviour for the teacher to implement the rules that he/she set with respect to both the classroom layout and the use of the computers and apply to verbal violance. In such an environment, it can be said that the teacher is the one who talks, while the student is the one who listens. Consistent with these findings, in the study conducted by Filiz & Doğar (2012), it was concluded in terms of the hidden curriculum, that teachers tried to make the pupils acquire such characteristics as being punctual, obeying the authority, being docile, taking responsibility, being successful and being respectful to statesmen.

With respect to the hidden curriculum, Veznedaroğlu (2007) reported in his study that students learned that the administrators would behave them well, softly and understandinglwhen they obeyed the rules and that they would get angry with them and behave firmly when they did not obey. When it is taken into account that the hidden curriculum is shaped by the demands of the dominant classes in the society (Lynch, 1989), the formation of a hierarchy in the superior-subordinate relationship due to the teacher's putting a distance between themselves and students in the classroom setting can lead to unintended learning situations (Filiz & Doğar, 2012). According to the neo-markist view, this situation in the school setting resembles the relationship between the boss and the employee in business life. Therefore, authoritarian and oppressive attitudes appears in teachers' attitudes toward the class and communication with the students (Anyon, 1981; Apple, 2004). In an environment where teacher-centered understanding prevails, learners learn to memorize the knowledge and they are away from autonomy and productivity. They can not express their feelings and thoughts easily. As a result passive, submissive, obedient and uncritical individuals are ggrown up. On the other hand, the fact that the students were sitting turning their back to the teacher due to the laboratory system, the computers' being a distracting entertainment tool for the students and the lack of grading value lead the students to act freely, not to take the teacher seriously and not to care about the lesson.

The dimension of "prejudices and discrimination" is related to the behaviors that teachers exhibit in a prejudiced and discriminatory manner according to certain characteristics of the students. Teachers expressed that they favoured the students who were more successful, more predisposed to information technologies and more obedient. These findings give clues about the hidden curriculum in contradiction with the concepts of equality, justice and democracy in the formal curriculum. In addition, some teachers in the study expressed that they favoured male students or the students who had an interest in sports and arts. Accordingly, students can learn that they will be appreciated and treated warmly and intimately by the teacher and that they will get a high mark in the course when they have those aforesaid features Çengel (2013) found that the performance grade given by the teachers were important for the students and therefore that the students wanted to win the teacher's favour and complimented them. Teacher behaviors differ according to the quality of life of the school and the socio-economic status of the students. While the teachers seem to be more interested in the students in schools with a high quality of life and socio-economic level, it is seen that the lessons are more superficial and teacher-centered in schools with a lower socio-economic level. The differences in the behaviors of teachers who work in the schools with different life quality can also be due to the expectations of the parents and administrators. Consistent with these findings, in Yıldırım's (2013) study, it was concluded that the teachers working in the schools with lower socio-economic state conducted the lessons through traditional methods, they were too disciplined, they humiliated the students in front of their classmates and they regarded the students who were taking part in the lessons actively. In the same study, it was seen that in the schools with a higher socio-economic state, the negative attitudes originating from the teacher were less than the ones in the other group. Indeed, in relation to the theme of "power and authority", the function of education is shaped by the economic level and the students are educated according to the existing structure of the society. This may lead teachers to have a discriminatory attitude due to certain differences among pupils, schools and parents (Apple, 2004; Giroux, 2011). Some studies came up with similar findings in relation to the hidden curriculum that arise from individual differences of students such as gender, socio-economic status, names, and ethnical origins (Akbulut, 2016; Elitok-Kesici, 2010; Saldıray & Doğanay, 2017; Sarı & Doğanay, 2009). The streotypes that individuals hold, along with historical, psycohological and socio-cultural factors, may lead the individidual to display biased and discriminatory behaviours (Göregenli, 2012 p. 23). Stereotypes may prepare room for unintended reactions because of their immediate acceptance without requiring deep thinking as a cognitive shourtcut.

The dimension of "narratives" is associated with teachers' unplanned discourses and reactions about ethical and ideological issues beside those about social and historical values. The "narratives" theme is examined under two sub-dimensions as "social and moral" and "ideological". Based on the teachers' opinions, it was identified that they gave messages and made narratives more about social and moral values. The activities for values education are

stated in the formal curriculum, on which the cognitive field is of primary importance. These activities are based on reading from coursebooks and discussions and narratives in the classroom setting (Doğanay & Sarı, 2004). However, since it is difficult to adopt the values with their cognitive dimension as written on the formal curriculum, it is necessary to focus on the hidden curriculum where the emotional dimension is taken into account (Akman, Çarşanbalı & Alagöz, 2017; Tuncel, 2008; Yeşilyurt & Kurt, 2011). In the study, some of the teachers emphasized that they talked about their and others' life stories and experiences, showed the students short videos and movies, warned them and directed them to cultural events. Real-life experiences, the media and communication technologies can be used as effective tools in conveyance of messages related to values education in the context of hidden curriculum in education (Akman, Çarşanbalı & Alagöz, 2017; Doğanay & Sarı, 2004; Kuş, 2009). It can be claimed that the real life experiences in which the emotional factors are taken into consideration in accordiance with the hidden curriculum are more effective than the direct teaching in adoption of the moral and social values by students. With regard to the dimension of "ideological", it was found that teachers were involved in religious and political discourses. Teachers' reflection of their ideological tendencies is seen as a component of the hidden curriculum (Apple, 2004, p. 79; Yüksel, 2004). Teachers reflect their beliefs, values and opinions beside the formal curriculum in the class. In this sense, when this situation contradicts with the formal curriculum, an hidden curriculum is introduced.

In the dimension of "communication", the emphasis is on the unplanned activities which emerge from interrelations and verbal or nonverbal reactions of the teacher and the student with an aim to understand each others. Unplanned learning situations may occur while teachers are talking to students and communicating verbally or non-verbally (Akbulut, 2016; Previna, 2011). In this study, two sub-dimensions as "positive communication" and "negative communication" were identified in the light of teacher opinions. Teachers' opinions were found to be mainly related to the sub-dimension of "positive communication". In this sense, teachers expressed that they listened to students' requests and behaved them in a sincere and smiling manner. In addition, some of the teachers pointed out that they empathized with their students, addressed to them with their names, approached them as friends, attached importance to body language, and established eye contact. As a result, students may feel that they are valued and cared about. For the dimension of "negative communication", teachers mostly expressed that they were harsh and communicated with them by shouting. Negative communication with the student can lead to the development of negative tendencies in students such as fearing from the teacher, seeing themselves worthless, and not being able to express feelings and thoughts freely (Broeckelman-Post et al., 2016; Kearney, Plax & Allen, 2002; Yüksel, 2004). However, some teachers also reported that they displayed behaviours such as humiliating and ignoring the students. It can be said that these findings are also related to the dimensions of "power and authority" and "prejudices and discrimination". In some studies, it was also revealed that teachers communicated with their students negatively by resorting to harsh manners containing verbal violence (Broeckelman-Post et al., 2016; Yıldırım, Akan & Yalçın, 2016). This may be due to the fact that teachers behave too rigorously as a power indicator in order to ensure the classroom layout and to dominate over students.

The "role-model" dimension refers to teacher behaviours that set an example for students in relation to moral, ethical and societal values. In this study, it is an important finding that most of the teachers were criticizing themselves about being mostly negative role-models for students. Oral or non-verbal behaviors of teachers in the class can be a negative example when they are different from their practices in real life, which can lead to the emergence of unwanted learnings. It is another important finding in terms of the hidden curriculum that most of the teachers, themselves, did not act in accordiance with the principles of information ethics altough they warned the students about them. Thus, it can be said that the behaviors exhibited in daily life are inconsistent and contradictory with what was told in lesson. In the this piece of research, most of the teachers stated that some of their characteristics might be negative models for the students, while others stated that they might also be positive models with their positive sides. It can be claimed that students take their teacher as a role model according to the teacher's sincerity and honesty. At this point,

students' feeling the teacher's behaviour and the mutual social relationship between them are viewed as significant (Özsoy-Yener, 2011). As a matter of fact, it may be said that teachers may be a good role-model in adoption of values by students. In the study conducted by Köse & Demir (2014), it was seen that the students took their teachers as examples according to the values such as love, justice and tolerance rather than the academic knowledge that teachers had. In the same study, it was concluded that the stduents developed negative tendencies towards the teachers who were discriminating among students and had poor communication. Similarly, in Coşkun's (2016) study, it was seen that the education faculty students took their instructors as models and that the hidden curriculum stemming from instructors' behaviours was effective in the process of acquiring responsibility, respect, justice and professional ethics.

The "professional" dimension emphasizes unintended messages about teachers' praising their own branch, the teaching profession or other professions, regarding them as worthless or directing to any profession. Most of the teachers gave messages about the economic benefits of the field of information technologies. On the other side, while some teachers seemed to be directing the students to professions related to their field, the others stated that the teaching profession was worthless. It was observed that the teachers made professional guidance mostly according to economical conditions and put emphasis mostly on the importance of the field of informatics rather than the teaching profession itself. It can be argued that students may achieve unintended learnings because of the fact that participant teachers see the teaching profession as worthless. It was also seen that the teachers were guiding students professionally according to mainly the economical benefits along with the needs of the age and their own viewpoints rather than students' own preferences Unlike the findings of this research, in some researches it was concluded that the hidden curriculum contributed to the adoption of professional values and the acquisition of professional identity (Bandini et al., 2017; Haidet & Stein, 2006; Karimi et al., 2014; Mossop et al., 2013; Tsang , 2011). However, it was seen that mainly students who were getting education or doing internship on the professional field constituted the study sample of those aforesaid studies.

In the dimension of "school culture", the emphasis is on teachers' verbal and non-verbal (such as visual and spiritual values) reactions related to the components that constitute the the school identity (its history, symbols, unique qualities and etc.). Some of the participants in the study stated that they directed the students to school activities in lessons and made them prepare logos, brochures and videos for presentation of the school. In addition, some of the teachers aimed to increase the students' adoption of the school and their sense of belonging to their school by the activities they wanted them to do. In this regard, students can experience hidden learning situations in relation to school culture. The influence of the school culture (Çengel, 2013; Demir, Kaya & Metin, 2012), which is also evaluated within the context of the hidden curriculum beside the formal curriculum, is reflected in the behaviour of the administrators, students and teachers (Alemdar & Köker, 2013). According to Wren (1999), symbolic components such as ceremonies at school, school newspaper, school yearbook, student uniforms and the school logo are among the factors that constitute the hidden curriculum. One of the important findings of the research is that the computer software and multimedia contents are used as tools in the adoption of the school identity. As a matter of fact, these contents serve to the emergence of the hidden curriculum arising from school culture (Adams, 2017; Edwards, 2015). Significantly, it is seen that the number of the activities to create the school culture are higher in successful and high-vision schools. Similar to this finding, in the study conducted by Aktaş (2016), it was inferred that the students in science high school perceived their schools as institutions that provided a good education for examinations.

When it is taken into account that students spend a large part of their time with their teachers at school, teachers may be good role-models for adoption of the values by the students. Therefore, it is primarily necessary for teachers to internalize the basic values themeselves to exhibit a democratic attitude in the classroom setting and to stay away from inconsistent and showy attitudes. At this point, emotional factors (such as love and trust) can be taken into account in terms of the interaction between the student and the teacher in the formation of the hidden curriculum. The teacher's behaviors that conflict with the formal curriculum and the unwanted learning of the students should be revealed and the necessary

precautions should be taken. In addition, sections and experiences from important people's lives can be presented in lessons by means of media and information technologies. Teachers must be at a position to guide the education and put the student in the center rather than an authoritarian role in the learning process. In compliance with the results obtained for the sub-dimension of "getting a profession", the professional guidance by teachers can be done more consciously considering the students' interests and wishes.

In this study, on the basis of the result that information technologies can carry messages about the hidden curriculum, interactive boards can be prepared for the school corridors for the adoption of school culture through these technologies and websites and social networks can be used more effectively in presenting school-related activities. Platforms (such as a visitor's book and a box of views) on which information is shared for stakeholders in the school (graduate, student, parent, etc.) can be created. In lessons related to information technologies, activities about the school identity (such as designing a school logo, organizing school photos and creating school or classroom promotional videos) can be done by using specific softwares or programs. When most of the stakeholders in the classroom or school are thought to be unaware of the hidden curriculum (Lavoie, 2006; Tezcan, 2005); the awareness to the hidden curriculum among preservice teachers, the teachers in service and administrators on duty may be increased with the consciousness-raising efforts of experts. The results that stem from the hidden curriculum may be utilized in curriculum development efforts. As the hidden curriculum was examined in terms of teacher behaviours in this present study, the other dimensions of the hidden curriculum (such as the physical environment, architecture and emotional characteristics) may be investigated in detail in psopective studies and diversity in collection of the data (such as opinions from students and administrators, making observations in the classrroom setting) may be ensured for those studies.

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Journal of Education and Future
year: 2018, issue: 14, 57-69

The Self-Efficacy as Predictors of the Metacognition Awareness in Children

Kayhan Bozgün* **Serpil Pekdoğan****

Abstract

It is important for children to have some skills and competencies in the acquisition of effective learning skills. Metacognition awareness that allow children to become aware of what they know and think to learn a knowledge and build on the knowledge they will learn in this process; they need to be self-efficacy in order to accomplish a task and to be able to come up with new problems or situations. In this context, the research aimed to determine whether self-efficacy in children predicts metacognition awareness, and also the results of the relationship between self-efficacy and metacognition and the validity and reliability of the measurement tools used are included in the study. In the research, the correlational survey model, which is one of the quantitative research method, is used to determine the relationship between two or more variables. The study group of this study consists of 350 children aged between 12 and 14 years, continuing to middle schools which are depends on Ministry of National Education in Turkey. The Personal Information Form, "Self-Efficacy Scale for Children" and "Scale of Metacognition for Children" were used together to collect the data of the study. The reliability coefficients of the measuring instruments were determined with the Cronbach alpha coefficient, after the fitting of the measuring instruments used in the study was confirmed on the working sample. The Cronbach's alpha coefficient for the self-efficacy scale for children were calculated .88; and the Cronbach's alpha coefficient for the metacognition scale for children were calculated as .92. To investigate the relationship between self-efficacy and metacognition awareness, the Pearson Moments Multiplication Correlation Coefficient is calculated and confirmatory factor analysis was used to check the fit of the scales with the sample group. It has been determined that self-efficacy is a predictor of metacognition awareness according to the results of multiple regression to examine whether self-efficacy beliefs in children are predictive of metacognition awareness. The development of metacognition and self-efficacy levels together in children is one of the issues to be emphasized by parents and educators.

Keywords: metacognition awareness, self-efficacy, children, learning styles

* Res. Assist., Amasya University, Faculty of Education, Primary Education Program, Amasya, Turkey. E- Mail: kayhanbozgun@gmail.com ORCID ID: 0000-0001-9239-2547

** Assist. Prof. Dr., Hitit University, School of Health, Department of Child Development, Çorum, Turkey. E-mail: serpilpekdogan.sp@gmail.com ORCID ID: 0000-0002-8442-354X

Çocuklarda Üstbiliş Farkındalığının Yordayıcısı olarak Özyeterlik

Öz

Çocuklar için etkili öğrenme becerilerinin edinilmesi konusunda bazı becerilere ve yetkinliklere sahip olmak önemlidir. Çocukların bir bilgi edinmek için bildikleri ve düşündüklerinin farkında olmalarını sağlayan ve bu süreçte öğrenecekleri bilgiyi geliştiren üstbiliş farkındalığına; bir görevi yerine getirmek ve yeni sorunlar veya durumlarla karşılaşabilmek için de öz yeterlik becerilerine sahip olmaları gerekir. Bu bağlamda, araştırmanın amacı, çocukların öz yeterliklerinin üstbiliş becerilerini yordayıp yordamadığını ve öz yeterlik ile üstbiliş arasındaki ilişkinin sonuçlarını ve kullanılan ölçüm araçlarının geçerlik ve güvenilirliğini araştırmaktır. Araştırmada yöntem olarak nicel araştırma yöntemlerinden olan, iki veya daha fazla değişken arasındaki ilişkiyi belirlemeyi sağlayan ilişkisel tarama deseni kullanılmıştır. Yaşları 12-14 arasında değişen Türkiye'de Millî Eğitim Bakanlığına bağlı ortaokullara devam eden 350 ortaokul öğrencisi bu çalışmanın çalışma grubunu oluşturmaktadır. Çalışmanın verilerini toplamak için Kişisel bilgi formu, "Çocuklar için Özyeterlik Ölçeği" ve "Çocuklar için Bilişüstü Ölçeği" kullanılmıştır. Çalışmada kullanılan ölçme araçlarının çalışılan örneklem üzerindeki uyumu saptandıktan sonra, ölçme araçlarının güvenirlik katsayılarına Cronbach Alpha katsayısı ile bakılmıştır. Çocuklar için özyeterlik ölçeğinin Cronbach Alfa katsayısı .88; çocuklar için bilişüstü ölçeğinin güvenirlik katsayısı .92 olarak haesaplanmıştır. İki ölçek arasındaki ilişkiyi belirlemek için Pearson Momentler Çarpımı Korelasyon Katsayısı hesaplanmış; ölçeklerin örneklem grubu ile uyumunu kontrol etmek için doğrulayıcı faktör analizi kullanılmıştır. Çocuklardaki özyeterlik becerilerinin üst biliş becerilerinin yordayıcısı olup olmadığını belirlemek için gerçekleştirilen çoklu regresyon sonuçlarına göre özyeterlik becerileri üstbilişin bir yordayıcısı olduğu bulgularına ulaşılmıştır. Çocuklarda üstbiliş ve özyeterlik becerilerinin birlikte gelişimi aileler ve eğitimciler tarafından önemle üzerinde durulması gereken konular arasında yer almalıdır.

Anahtar Sözcükler: üstbiliş farkındalığı, özyeterlik, çocuklar, öğrenme stilleri

Introduction

Children need to have some skills and competencies to gain effective learning skills. It is the metacognition awareness that allow children to be aware of what they know and think to learn a knowledge, and build on this process experience on the knowledge they will learn; they need to have acquired personal qualifications to achieve a job and to be able to overcome new problems or situations (Flavell, 1976; Thomas et al., 2008). What matters first is that the child should aware of the information that the child has already acquired so that the child's learning can be healthy.

Metacognition, have such great effect on learning, first described by Flavell (1976) as being aware that one knows his cognitive processes and knowledge in a subject (Coutinho, 2008; Thomas, Anderson and Nashon, 2008). According to this definition, the person takes responsibility for the information he learns; and he plans, monitors and evaluates that information. Besides the definition of Flavell, another definition of metacognition, which is frequently used in the literature, is defined by Hacker (1998), as well as knowing the person's knowledge, process, cognition and situation, this process has the ability to monitor and manage cognition and situations. According to the definitions that are made in a different but units in common point, metacognition can be explained as knowing what the learner knows, monitoring and controlling the learning process, evaluating himself / herself and learning process.

Flavell (1976) acknowledges that metacognition consists of two strategies: monitoring and regulation. Monitoring consists of self-testing skills necessary to ensure that learning is controlled (Schraw, Crippen and Hartley, 2006). Regulation consists of skills that enable the person to plan, interpret and self-assess using existing approaches, steps, and effective resources (Balcikanli, 2011; Cheng, 2011; Kaplan and Duran, 2015; Schraw 2001). After Flavell's (1976, 1979) studies to conceptualize and to define the structure of the metacognition, the significiance of the metacognition was noticed by the researchers and the studies for the development and identification of the metacognition levels of the students continued increasingly (Thomas et al., 2008).

As a result of developing and adapting metacognition strategies of children, it can be made their learning more permanent. Metacognition enables children to be aware of their strategies to control and know how to accomplish a job (Cera, Mancini and Antonietti, 2013). The importance of metacognition in explaining, discovering, and improving the thinking and learning processes of the learners is also frequently discussed (Thomas and McRobbie, 2001). In the realization of effective learning, the self-efficacy of the children is as important as the acquisition of metacognition strategies.

The realization of learning in education is not only provided by family, teacher, school; at the same time, the learner must also have a willingness to learn. The acquisition of this desire or motivation that children should have at primary education level can also be achieved by the high level of self-efficacy, which consists of factors such as belief, desire to achieve, determination and completeness of the process. By its most general definition self-efficacy can be expressed as having the motivation, determination, confidence, and self-control skills that a student must have before beginning a task to be done or completed (Bandura, 1993; Cera, Mancini ve Antonietti, 2013).

Bandura (1993), who theorizes the Social Cognitive Learning Theory, describes self-efficacy as positive self-beliefs about the ability of a person to control and handle behavior in a job or event. Ridlo and Lutfia (2017) explain the self-efficacy, as the achievement of the level of confidence that children should have in order to successfully complete the lessons; Zakeri, Rahmany and Labone (2016), on the other hand, described the combination of continuity, effort, efficiency and success required to organize, plan and complete a business. As it is understood from these definitions, the acquisition of self-efficacy is as important as the acquisition of metacognition awareness when the learning takes place in an effective way.

One of the most important educational goals that children in primary education must achieve is knowing how to complete a task on their own (Cera et al., 2013). In addition, academic success of children depends on their high self-efficacy levels. Children who want

to successfully complete a job or situation that they have been thinking about may become worried about the work they will do as they become less confident and wipe out to produce a solution to failure. The children can accomplish their task more easily if they believe that they will do the job, and can complete the task by finding the necessary self-confidence. Based on this information, Bassi, Stea, Fave and Caprara (2007) reported that students with high self-efficacy had higher academic goals and efforts than those with low self-efficacy.

With the use of metacognition awareness such as planning, controlling, monitoring and evaluation for the resolution of the problems encountered, children with self-efficacy who need to be committed and convinced to accomplish, can solve problems and fulfill responsibilities without any problems. In this context, metacognition and self-efficacy are two factors that play a role in organizing and planning children's work and learning effectively. Schraw et al. (2006) have expressed that the strategies used by students and the metacogniton are sub-classes of self-efficacy, and there is a relationship between metacognition and self-efficacy. Self-efficacy also increases as the level of metacognition increases. Ridlo and Lutfia (2017) stated that children will be confronted with situations of success and failure to use metacognition strategies in response to their confidence and weakness in their duties. It can be deduced that this relationship is an inseparable link between metacognition and self-efficacy, and that the level of self-efficacy must be increased in order to increase the level of metacognition in a child.

In literature, there are a number of studies have examined the relationship between metacognition and self-efficacy (Cera et al., 2013; Coutinho, 2008; Moores, Chang, & Smith, 2006; Ridlo and Lutfiya, 2017; Schraw et al., 2006). In these studies it is understood that these two variables are independent of each other but can not be thought separated from each other. When children with high metacognition awareness were examined, self-efficacy levels in these children were found to be high. Likewise, when children with high self-efficacy levels are examined, the likelihood that these children have more metacognition awareness is striking. When looking at the studies done in the literature, it is seen that studies that study the relation between metacognition awareness and self-efficacy of children are discussed in the international literature, but in Turkey, although there are many studies related to adults such as adolescents, teacher candidates etc.; it has been seen that there is no such work for children. It is expected that parents and teachers and other educators who are responsible for the education of the children will learn the relationship between self-efficacy and metacognition in the learning of the child and that these factors will be given to the children to achieve effective and permanent learning. This study was conducted to determine whether self-efficacy in children is predictive of metacognition awareness. For this purpose, the following questions were sought;

- What are the findings regarding the validity and reliability of the “Self-Efficacy Scale” and the “Metacognition Scale” for children in this study?
- Is there a relationship between children's metacognition awareness and self-efficacy?
- Are children's metacognitive awareness predicting self-efficacy?

Method

Design of the Study

The research was designed in the correlational survey model. Correlational survey models are research models aimed at determining the presence and degree of variation between two or more variables (Gay, 1987). Representations in the correlational survey model (the task of determining the values of the properties) are intended to identify distinctions between children, objects and etc., rather than trying to find measures that meet certain standards. (Gall, Gall and Bord 1999; Cohen, Manion and Morrison, 2000).

Participants

Children in the 12-14 age range are included in the study because they are cognitively in the process of transactions and know how to complete a job on their own. According to Kline (2005), the sample should be 10 times the number of items, and the number of samples should not be less than 200. Therefore, for the validity and reliability of the study, the sample group consisted of 240 children aged 12-14 years who continuing to secondary school.

However, 350 children were included in the study group for the actual study. The study consisted of 178 (%50.9) girls and 172 (%49.1) boys; and 122 (%34.9) children are 12 years old and 123 (%35.1) are 13 years old and 105 (%30) are 14 years old. Demographic information is given in Table 1.

Table 1. *Demographic information of the children participating in the study*

Variables	Sub-categories	n	%
Age	12	122	34.9
	13	123	35.1
	14	105	30
Gender	Girl	178	50.9
	Boy	172	49.1

Data Collection Tools

The data of the study were collected by "The Self-Efficacy Scale for Children", "The Metacognition Scale for Primary School Students" and "Personal Information Form".

The Self-Efficacy Scale for Children: The Self-Efficacy Scale for Children was developed by Muris (2001) with the aim of measuring social, academic and emotional self-efficacy of adolescents aged 12-19 years. The adaptation of the scale to the Turkish was carried out by Telef and Karaca (2012). Correlations between the Turkish and English forms of The Self-Efficacy Scale for Children were found .95 for the general population; sub factors were found to be .93 for academic self-efficacy; .94 for social self-efficacy and .91 (p<.01) for emotional self-efficacy. As a result of exploratory factor analysis, it was found that the total explained variance was %43.74 and the items were collected under 3 factors. When the eigenvalues with respect to the factor covariance of scale's items were examined, they were found to be between .30 and .59. In the confirmatory factor analysis, the consistency index values were found as x^2/sd=614.68/186=3.31; RMSEA=.05; NFI=.95; CFI=.96; GFI=.94 and RMSR=.07. In the discriminant validity study of the scale, an upper-lower %27 group comparison was made. It was seen that the t test values obtained varied between 10.98 and 21.17 and all the items (p<.01) were meaningful. When the internal consistency coefficients of The Self-Efficacy Scale for Children were examined, it was calculated as .86 for the general scale, sub-factors were found .84 for the academic self-efficacy; .64 for the social self-efficacy and .78 for the emotional self-efficacy. The test-retest reliability coefficients of the scale ranged from .75 to .89. The General Self-Efficacy Scale was used to look at the criterion-dependent validity of The Self-Efficacy Scale for Children. The Pearson Moments Multiplication Correlation was found to be .57 (p<.01) among the scores obtained from the application of the two scales. The Self-Efficacy Scale for Children is a scale of five point Likert type (1=no and 5=very good). Total self-efficacy are calculated by adding related items in sub-factors scores. The highest score on the scale is 105 and the lowest score is 21. The high score from the scale indicates that the relevant self-efficacy level of the children is high and the low score from the scale indicates that the self-efficacy level of the children is low.

The Metacognition Scale for Primary School Students: The Metacognition Scale was developed by Yıldız, Akpınar, Tatar and Ergin (2009) in order to measure the students' metacognition perceptions and awareness. An exploratory and confirmatory factor analysis was performed by the researchers who developed the scale to ensure that the scale is valid. The Cronbach Alpha reliability coefficient of the scale of 30 items was found to be .96. The scale consists of sub-factors that address the two basic dimensions of metacognition: cognitive knowledge and regulation of cognition. These factors include "explanatory knowledge (9 items)", "methodological knowledge (4 items)", "conditional knowledge (4 items)" for cognitive knowledge dimension; "planning (2 items)", "self-control (3 items)", cognitive strategy (3 items), self-evaluation (3 items), and self-monitoring (2 items) for regulation of cognition dimension. The lowest score that can be taken from the scale is 30 and the highest score is 120. The Cronbach alpha internal consistency coefficient for the whole scale was calculated as .96.

Analysis of Data

In the analysis of the data, the validity analysis of the measurement instruments used firstly was done. In this context confirmatory factor analysis was used. Confirmatory factor analysis (CFA) is used to check whether the pre-selected factor model has been adjusted for consistency. Confirmatory factor analysis is very useful in the development, organization and re-evaluation of measurement tools (Floyd and Widaman, 1995). Therefore, the compatibility of the data was tested with the LISREL 8.80 packet program to determine whether the data in the investigator's data conformed to the original structure. The reliability coefficients of the measuring instruments were determined with the Cronbach Alpha coefficient, after the fitting of the measuring instruments used in the study was confirmed on the working sample. The data were processed into the SPPS 20.0 program and after the validity and reliability of the measurement tools were given, it was observed whether there were extreme values before the analysis and the regression analysis was deemed to meet the assumptions of "linearity" and "multivariate normality". The graph of standardized dependent values with standardized deviations values showed that the assumption of linearity was met. It is seen that there is no significant deviation from the normal distribution in the graph of the observed and expected cumulative probability distribution, plotted with respect to the standardized deviation values. Pearson correlation coefficient analysis was used to determine whether there is a meaningful relationship between metacognition awareness and self-efficacy; and multiple regression analysis was used to determine self-efficacy as a predictor of metacognition awareness. The findings were assessed at a significance level of .05. Multiple regression analysis allows estimation of the dependent variable based on two or more independent variables associated with dependent variables (Büyüköztürk, 2010).

Findings

Findings related to Validity and Reliability

Findings about the Self-Efficacy Scale for Children

When the findings of confirmatory factor analysis made to test the fit of the self-efficacy scale for children with the original structure on the sample group studied were examined, the ratio of x^2/sd was found to be 2.51 (x^2/sd =467.93/186). Looking at the ratio of degrees of freedom with Chi-Square, it is seen that it has a value of under 3 and thus this value indicates a good consistency value (Hooper, Coughlan ve Mullen, 2008; Schermelleh-Engel, Moosbrugger ve Müller, 2003). Other consistency index values calculated with CFA are CFI: 0.95, GFI: 0.89, AGFI: 0.86, NFI: 0.92; NNFI: 0.95; RFI: 0.95. When these values are close to 1, it is considered as a acceptable consistency (Baumgartner & Homburg, 1996; Bentler, 1980; Bentler & Bonett, 1980; Marsh, Hau, Artelt, Baumert & Peschar, 2006). The RMSEA value was calculated as 0,06 and the RMR value was calculated as 0,05. Being value of RMSEA less than 0.08 is regarded as a good consistency (Brown, 2006; Browne & Cudeck, 1993; Jöreskog and Sörbom, 1993).

Table 2. *Confirmatory factor analysis results*

Scale	x^2/sd	CFI	GFI	AGFI	NFI	NNFI	RFI	RMSEA	RMR
Self-Efficacy	2.51	0.95	0.89	0.86	0.92	0.95	0.95	0.06	0.05

Figure 1 shows the standardized regression coefficients for the implicit dependent variable for each item. Regression coefficients for the items of academic skill subscale of the self-efficacy scale ranged from .48 to .60; social skills subscale ranged from .41 to .61 and emotional skills subscale ranged from .52 to .71. This indicates that item correlations vary between .41 and .71; when assessed for all items on the scale. When the reliability coefficient of the scale was examined, the cronbach alpha value was found to be high with .88.

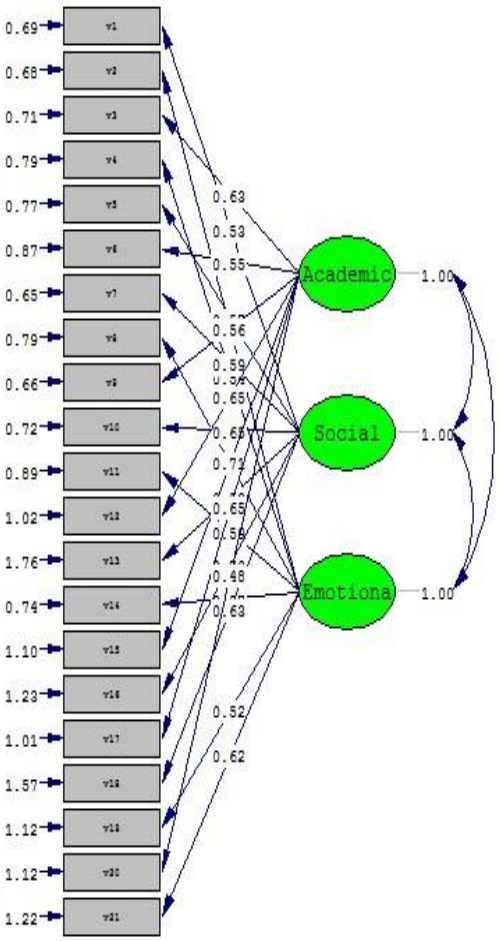

Figure 1. *Confirmatory factor analysis diagram*

Findings about the Metacognition Scale

When the findings of the confirmatory factor analysis made to test the correspondence with the original structure on the studied sample group of the metacognition scale were examined, x^2/sd ratio was found 1.41 (x^2/sd =534.06/377). Looking at the ratio of degrees of freedom with Chi-Square, it is seen that it has a value of under 3 and thus this value indicates a good consistency value (Hooper, Coughlan ve Mullen, 2008; Schermelleh-Engel, Moosbrugger ve Müller, 2003). Other consistency index values calculated with CFA are as follows: CFI: 0.99; GFI: 0.91; AGFI: 0.89; NFI: 0.93; NNFI: 0.95; RFI: 0.94. When these values are close to 1, it is considered as a acceptable consistency (Baumgartner & Homburg, 1996; Bentler, 1980; Bentler & Bonett, 1980; Marsh, Hau, Artelt, Baumert & Peschar, 2006). The RMSEA value was calculated as 0.03 and the RMR value as 0.02. These values are considered to be in perfect consistency (Brown, 2006; Browne & Cudeck, 1993; Jöreskog and Sörbom, 1993).

Table 3. *Confirmatory factor analysis results*

Scale	x^2/sd	CFI	GFI	AGFI	NFI	NNFI	RFI	RMSEA	RMR
Metacognition	1.41	0.99	0.91	0.89	0.93	0.95	0.94	0.03	0.02

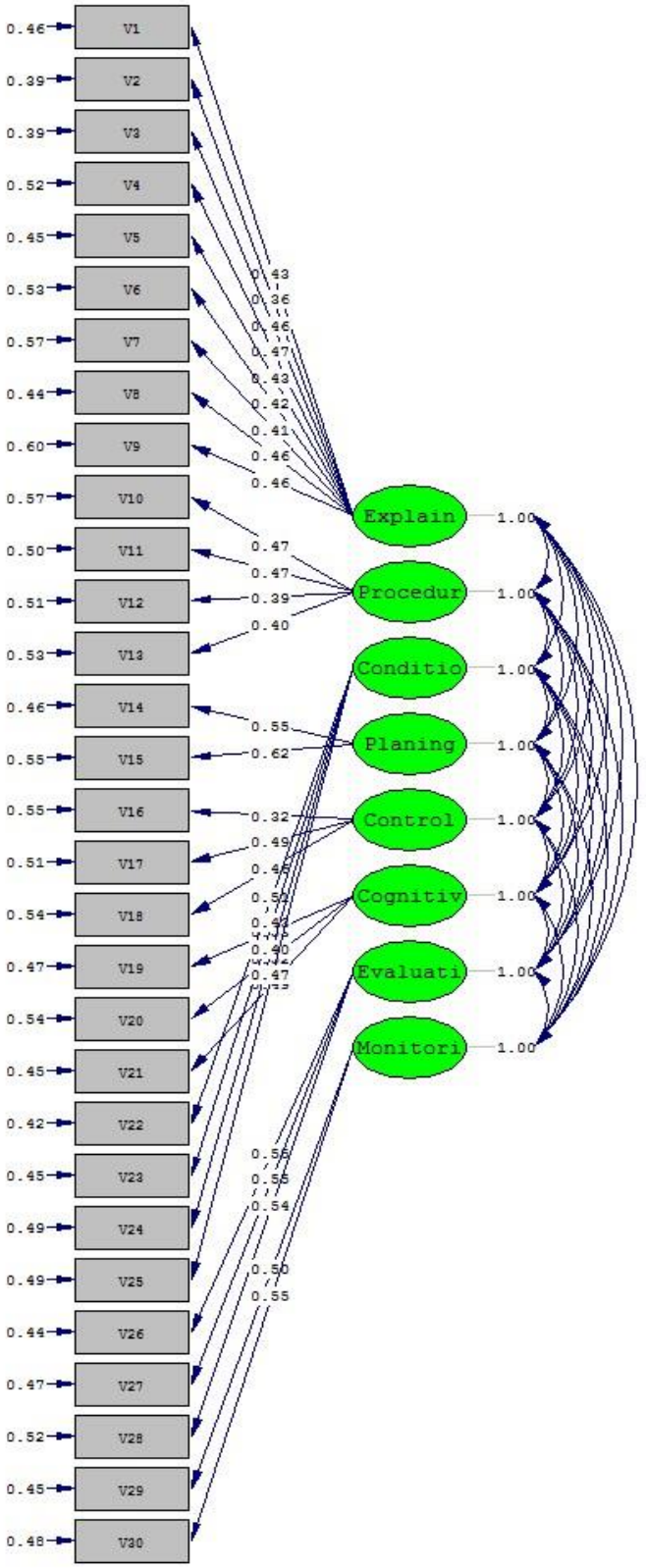

Figure 2. *Confirmatory factor analysis diagram*

When figure 2 was examined, it is seen that the standardized regression coefficients on the implicit dependent variable of each item. The regression coefficients for the items of explanatory knowledge subscale of the metacognition scale ranged from .36 to .46; the methodological knowledge subscale ranged from .39 to .47; the conditional knowledge subscale ranged from .40 to .47; the planning subscale ranged from .55 to .62; the self-control subscale ranged from .32 to .48; cognitive strategies ranged from .40 to .47; self-assessment subscale ranged from .55 to .54; and self-assessment subscale ranged from .50 to .55. This indicates that item correlations vary between .36 and .62 when assessed for all items on the scale. When the reliability coefficient of the scale was examined, the cronbach alpha value was found to be high with .92.

Findings Related to Metacognition Awareness and Self-Efficacy

Pearson's correlation coefficient was examined to determine the relationship between children's metacognition awareness and self-efficacy, and the findings were presented in Table 4.

Table 4. *Simple correlations between children's metacognition awareness and self-efficacy*

F.	MC.	E.K.	M.K.	C.K.	P.	S.C.	C.S.	S.A.	S.M.
SE.	.70**	.66**	.54**	.58**	.40**	.53**	.53**	.550**	.47**
A.	.65**	.65**	.49**	.54**	.36**	.48**	.48**	.494**	.42**
S.	.61**	.59**	.48**	.51**	.30**	.46**	.44**	.496**	.41**
D.	.54**	.47**	.41**	.44**	.37**	.41**	.43**	.426**	.39**

(Factors:F; Self-efficacy:SE.; Academic:A.; Social:S.; Emotional:D; Metacognition:MC.; Explanatory Knowledge:E.K.; Methodological Knowledge:M.K.; Conditional Knowledge: C.K.; Planning:P.; Self-Control:S.C.; Cognitive Strategies:C.S.; Self-Assessment:S.A.; Self-Monitoring:S.M.; $^{**}p<.01$)

It is seen that there is a high correlation as positive between metacognition awareness and self-efficacy in children (r=.698) when metacognition awareness and self-efficacy of children are examined in table 3. In addition, it is seen that the relationship between the sub-factors of the metacognition scale and the sub-factors of the self-efficacy scale change between medium and high levels. Multiple regression analysis was conducted to examine self-efficacy as a predictor of children's metacognition awareness and findings were presented in Table 5.

Table 5. *Findings of regression analysis of self-efficacy as a predictor of children's metacognition awareness*

Variable	*B*	*S.H.*	*β*	*T*	*p*	Binary	Partial
Constant	33.60	3.40	-	9.89	.00	-	-
Academic	1.15	.15	.39	7.47	.00	.65	.37
Social	.67	.16	.24	4.35	.00	.61	.23
Emotional	.47	.12	.19	3.94	.00	.54	.21
R=.71 R^2=.50	F=116.32						
	p=.00						

Academic, social and emotional variables with subscales of self-efficacy have a high and significant relationship with children's metacognition skill scores (R =.71; R^2=.50; $p<.01$). Academic, social and emotional variables account for about 51% of the total variance in metacognition awareness. When the standardized regression coefficient (β) and t values are examined, it can be said that in order of relative importance; academic, social and emotional skills are a significant predictor of metacognition awareness.

Discussion and Conclusion

In the first sub-problem of the study; DFA analysis and cronbach alpha values for the construct validity and reliability of "The Self-Efficacy Scale for Children" and "The

Metacognition Scale" were examined on the sample group study. For the self-efficacy scale, the x^2/sd ratio of consistency index values calculated with DFA was found 2.51 (x^2/sd=467.93/186). Other consistency index values calculated with DFA are determined as 0.95 for the CFI; 0.89 for the GFI; 0.86 for the AGFI; 0.92 for the NFI; 0.95 for the NNFI and 0.94 for the RFI. The RMSEA value was found 0.06 and the RMR value was found 0.05; while the cronbach alpha value was found .88. The consistency index values in DFA made by Telef and Karaca (2012) were found x^2/sd=614.68/186=3.305; RMSEA=.049; NFI=.95; CFI=.96; GFI=.94 and RMSR=.066; while the cronbach alpha coefficient was found as 0.86. For the metacognition scale, while the x^2/sd ratio of the consistency index values obtained from the DFA analysis on the coherence and reliability with the original structure on the sample group studied was found 1.41; other consistency index values calculated with DFA are as follows: 0.99 for CFI; 0.91 for GFI; 0.89 for AGFI; 0.93 for the NFI; 0.95 for the NNFI and 0.94 for the RFI. In addition, the RMSEA value was calculated as 0.03 and the RMR as 0.02. The Cronbach alpha value was found as .92. In the "Metacognition Scale" by Yıldız et al. (2009), these values were found for x^2=1181.63, sd=375, RMSEA=0.07, GFI=0.84, AGFI=0.81, CFI=0.89, NFI=0.85 and RMR=0.05 and the cronbach alpha value was found as .96. In the direction of these findings, it can be said that the measuring instruments are valid and reliable on the sample group studied.

In the second sub-problem of the study; when findings related to the relationship between metacognition awareness and self-efficacy of children are examined, it is seen that children's metacognition awareness are highly correlated with self-efficacy. Self-efficacy which includes the beliefs of the ability of children to cope with the problems they faced, the ability to cope with new situations where effort is necessary, having the ability of organizing, practicing and controlling on their work (Luszczynska, Gutierrez-Dona and Schwarzer, 2005; Scholz, Dona, Sud and Schwarzer, 2002, Eccles and Wigfield, 2002) and metacognition awareness which includes planning, comprehension and self-evaluation (Açıkgöz, 2000), must have a relationship between each other. Because in the expectation of competence, the child believes that he can accomplish something. This belief is accompanied by the development of metacognition awareness in children. Through their metacognition awareness, the children evaluate whether they can be successful; decide what steps to solve the problem, observe how actions progress, and transfer their experiences to subsequent actions (Gourgey, 1998). Therefore, it seems normal to have a high level of relationship between metacognition awareness and self-efficacies of children. Smith (2002) states that strengthening self-efficacy beliefs is based on direct personal experiences and that success is often attributed to one's own efforts and skills. From this point on, making meaningful learning and using metacognition awareness that include cognitive process skills such as understanding, evaluating, and controlling what they learn for children, affect also the self-efficacy (Georghiades, 2004; Nietfeld, Cao and Osborne, 2005; Pintrich, 2002; Schraw and Moshman, 1995). When investigating the researches, on one hand, it is seen that metacognition awareness have improved the success (Çakıroglu, 2007; Özsoy, 2008) and motivation (Demir-Gülşen, 2000); has developed self-control skills, has improved the way of obtaining knowledge and provided using information (Ciardiello, 1998) and has improved the ability of problem solving (Howard, McGee, Shia and Namsoo, 2000). On the other hand, self-efficacy has an impact on problem solving and goal setting (Pajares, 2002; Schunk, 1981, 1982), has ensured achievements with high levels for children have self-efficacy. Children need to actively use metacognition awareness to grow successful, to have high quality of life, to solve potential problems, to develop strategies, and to be self-confident and patient children in implementing these strategies.

As the sub-dimensions of the self-efficacy scale, academic, social and emotional self-efficacy were found to be important predictors of metacognition awareness, when the self-efficacy as a predictor of metacognition awareness was examined in the third sub-problem of the study. According to the research by Clause, Delbridge, Schmidt, Chan and Jennings (2001) children with high self-efficacy use metacognition strategies. They also modeled the relationship between self-efficacy, metacognition, and achievement; and in the model of self-efficacy and achievement they have reached the finding that they are mediated by

metacognition awareness. Researchers have stated that self-efficacy, behavior modification and outcomes are highly correlated with each other; and self-efficacy is an excellent predictor of behavior (Pajares, 2002; Legg and Locker, 2009). Bassi et al. (2007) reported that children with higher self-efficacy have more academic purposes and efforts. The metacognition awareness mediates the child to think and recognize about his cognitive structure for the correct structuring of knowledge. In order for this process to work, the child must be able to trust and believe in himself. Bandura (2000) stated that metacognition awareness is related to self-efficacy and that the development of children's academic and other skills is carried to higher levels by the interaction of these two factors. When the researches are examined, it has been pointed out that children's self-efficacy beliefs have positive effects on metacognition awareness (Houtveen, Van De Grift & Creemers, 2004; Den Brok, Brekelmans & Wubbels, 2004; Thoonen, Sleegers, Pettsma & Oort, 2011). These findings are consistent with this study. In conclusion, the development of self-efficacy in children ensures that the child is highly self-confident and that he is aware of his/her abilities, as well as it improves the abilities of the child's metacognition awareness, positive approach to learning and to cope with difficulties (Cera, Mancini & Antonietti, 2013). The development of metacognition awareness and self-efficacy in children should be emphasized by parents and educators. Experimental studies can be carried out by developing training programs on about the self-efficacy and the development of the metacognition awareness. The relationship between metacognition awareness and self-efficacy with other variables can be examined.

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Journal of Education and Future
year: 2018, issue: 14, 71-86

The Comparison of Scientist Perceptions of Syrian Refugee Students and Turkish Students: Sample of Mersin Province

Ümit İzgi Onbaşılı*

Abstract

The objective of this study is to compare scientist perception of students who migrated from Syria to Turkey in recent years in primary school age and Turkish students. Descriptive research method is used in this study. The study was conducted with a total of 109 students as Syrian (36) and Turkish (73) attending a public school in third and fourth grades in Mersin Province in 2017-2018 academic year. In the research, Draw A Scientest Test-DAST which were developed by Chambers (1983) was applied as data collection tool. The analysis of the drawings was made with reference to codes and themes developed by Chambers (1983), Korkmaz and Kavak (2010), Song and Kim (1999). In the drawings of students; the codings were performed according to the themes of (1) physical characteristics of scientist, (2) his/her gender, (3) research symbols s/he used, (4) knowledge symbols s/he used, (5) technology, (6) study field and (7) favourite scientists. When the drawings are examined all male children both Syrian and Turkish drawed a “male” figure when scientist is called. As for the physical characteristics of scientist, both student groups described scientist as his/her hair combed properly, well groomed. While Syrian students give place to symbols of microscope, clock, palette, lightbulb, ship, Turkish students give place to many more various symbols relevant to research symbols scientist used. The images which they reflected related to knowledge symbols used by scientist differs as well. It is seen that common images of Syrian and Turkish children related to technology are time machine, spaceship, flying car and flying house. While the drawings are examined under the category of favourite scientist; "Thomas Edison" took the first place in the ranking of favourite scientist for both Syrian and Turkish students. As a result of this research, it is seen that Syrian students generally give more limited answers about the perception of scientists than Turkish students. Children have difficulty in drawing according to Turkish students since they cannot express themselves in a language other than their mother tongue. In this context, suggestions were made about the integration of Syrian students into the education process.

Keywords: Syrian refugee student, primary education, scientist perception

* Assist. Prof. Dr., Mersin University, Faculty of Education, Department of Primary School Education, Mersin, Turkey. E-mail: umitizgi@gmail.com

Suriyeli Mülteci Öğrencilerle Türk Öğrencilerin Bilim İnsanı Algılarının Karşılaştırılması: Mersin İli Örneği

Öz

Bu çalışmanın amacı, son yıllarda Suriye'den Türkiye'ye göç eden ilkokul çağındaki öğrencilerle Türk öğrencilerin bilim insanı algılarını kıyaslamaktır. Çalışmada betimsel araştırma yöntemi kullanılmıştır. Araştırma 2017-2018 eğitim öğretim döneminde Mersin İli'nde bulunan bir devlet okuluna kayıtlı üçüncü ve dördüncü sınıfa devam eden Suriyeli (36) ve Türk (73) toplamda 109 öğrenciyle yürütülmüştür. Araştırmada veri toplama aracı olarak Chambers (1983) tarafından geliştirilen "Bir Bilim İnsanı Çiz Testi" (Draw A Scientest Test-DAST) uygulanmıştır. Çizimlerin analizi Chambers (1983), Korkmaz ve Kavak (2010), Song ve Kim (1999) tarafından geliştirilen kod ve temalar referans alınarak yapılmıştır. Öğrencilerin çizimlerinde; (1) bilim insanının fiziksel özellikleri, (2) cinsiyeti, (3) kullandığı araştırma sembolleri, (4) kullandığı bilgi sembolleri, (5) teknoloji, (6) çalışma alanı ve (7) favori bilim insanları temalarına göre kodlamalar yapılmıştır. Çizimler incelendiğinde hem Türk hem Suriyeli tüm erkek çocuklar, bilim insanı denildiğinde "erkek" figür çizmiştir. Bilim insanının fiziksel özelliklerine ilişkin olarak her iki öğrenci grubu da bilim insanını, saçı düzgün taranmış, üstü başı düzgün kıyafetli olarak anlatmışlardır. Bilim insanının kullandığı araştırma sembolllerine ilişkin, Suriyeli öğrenciler mikroskop, saat, resim paleti, ampul, gemi sembollerine yer verirken, Türk öğrenciler çok daha çeşitli araştırma sembollerine yer vermişlerdir. Bilim insanının kullandığı bilgi sembollerine yönelik yansıttıkları imajlar da farklılık göstermektedir. Suriyeli ve Türk çocukların teknolojiye yönelik ortak imajlarının zaman makinası, uzay gemisi, uçan araba ve uçan ev olduğu görülmektedir. Türk öğrencilerin büyük bir çoğunluğu bilim insanının laboratuvarda deneyler yaparken çizerken, Suriyeli öğrenciler daha çok doğada ve evde çalışırken çizmişlerdir. Favori bilim insanı başlığında çizimler incelendiğinde, "Thomas Edison" hem Suriyeli hem Türk öğrencilerin favori bilim insanı sıralamasında birinci sırada yer almıştır. Bu araştırma soncunda genel olarak Suriyeli öğrencilerin Türk öğrencilere göre bilim insanı algısıyla ilgili daha sınırlı cevaplar verdikleri görülmektedir. Uygulama için gidilen okulda Suriyeli öğrencilerle dil konusunda sıkıntılar yaşandığı görülmüştür. Çocuklar ana dillerinden başka bir dilde kendilerini rahat ifade edemedikleri için çizim konusunda Türk öğrencilere göre zorlanmışlardır. Bu bağlamda Suriyeli öğrencilerin eğitim-öğretim sürecine entegrasyonu konusunda önerilerde bulunulmuştur.

Anahtar Sözcükler: Suriyeli mülteci öğrenci, ilköğretim, bilim insanı algısı

Introduction

The population of refugees and immigrants is increasing in recent years due to the factors such as war, unemployment (İdin, 2018). When the psychological basis of education is thought, some variables emerged by migration movements started to find more place in school systems of today; concepts such as educational acceptance, perception, communication, attitude, belief, empathy, fear, support are seen more frequently in researchs (Nguyen & Benet-Martínez, 2013; cit.: Sakız, 2016, p.65). After the Syrian civil war started in 2011, more than four million people were forced to leave their homeland and more than half of these individuals are children (UNHCR, 2015; cit.: Sakız, 2016, p.66). Education processes of children and youngsters are among the subjects which are most affected from the conflicts in Syria. Because the schools closed substantially since 2011 when the events started, there is a period which was spent without education for Syrian children before they come to Turkey. The asylum case surplusing the predicted numbers and periods exceedingly increased the importance of education need. (Seydi, 2014, p.268).

When the studies conducted relevant to Syrian children are examined, it is seen that these children experience serious difficulties in complying with their educational institution. The most important common point is that children experience great problems due to not knowing Turkish. Since they don't know Turkish, they can not communicate with both their teachers and compeers. So, they can not socialize and stay out of the group (Uzun and Bütün, 2016, p.72). Similarly, İdin (2018) in his study which he conducted within the scope of science classes with refugee students, he concluded that refugee students were not able to comprehend what their teachers say in science classes. Also in this study, according to science teachers the factors such as students not knowing Turkish, not feeling that they belong to Turkey, economical reasons and negative school environment are effective in students failing in science classes (İdin, 2018).

In general, adaptation to school process (Yavuz and Mızrak, 2016), language problem (Büyükikiz and Çangal, 2016), their failures in lessons, teacher opinions related to this students (Uzun and Bütün, 2016) were studied with the Syrian students in our country. But it was not possible to encounter a study which was conducted with their perspectives of science, with their scientist perceptions in addition to academic achievements of these students. Science perception was studied with Turkish students so many times through different samples (Korkmaz and Kavak, 2010; Toğrol, 2000; Türkmen, 2008). But another study which compares scientist perception of Syrian students and Turkish students was not encountered.

In the literature, study conducted by Mead and Metraux (1957) is encountered as the first study which were carried out with regards to "scientist" concept. They examined scientist perception of students in detail by asking them open-ended questions in the study they conducted with high school students in United States of America. According to the result of this study students generally describe scientist as "someone who puts on a white coat, works in the laboratory, is middle aged/aged, wears glasses, is bearded, has test tubes around, making experiments all the time, observes with a microscope, observes about plants and animals, writing on a black and white blocknote…" (Mead and Metraux,1957, p.386-387). In addition, in this study both positive and negative perceptions related to scientist were determined. They described the positive specialities of a scientist as "genious, very hard-working, dedicated, someone who does not do this job for money, and who conduct useful studies for his/her country and humankind", on the other hand, they described their positive specialities as "someone who works in an indoor environment all day, can not be successful even though he/she studies for years, reads book all day and can't go to the house, can not spare enough time for his/her spouse and children, can not get married or not preferred for marriage, make some dangerous experiments" (Mead and Metraux,1957, p.386-387). Mead and Metraux (1957) who make various suggestions specified that educators should start awareness studies with regards to science and scientist perception beginning from preschool period and primary school. They especially mentioned about the importance of increasing the interest of female students against science and they emphasized that this should be encouraged. It is also shared within the scope of this study that it should be mentioned that scientists don't conduct only individual studies, but also teamwork. Mead and Metraux (1957) created a very significant awareness with regards to "scientist" perception in the education world. Afterwards, so many

researchs on various samples continued to be conducted. Chambers (1983) wanted to determine “Scientist” perception with a drawing test instead of open-ended questions or likert scale which were used before. Draw A Scientists Test-DAST was applied on so many students in different age groups, it took its place in the literature as a valid and reliable measurement tool.

Balkı, Çoban and Aktaş (2003) have asked students to open-ended questions about the nature of science and scientists. At the end of the study, it was observed that the students confuse the nature of science and the work of scientists'. In addition, it appears that most of the students said that reading a lot of books was enough to become a scientist and that there would not be anything without science. It is stated that the answers given by the students are limited due to the fact that science courses are not as qualified as their competence.

Korkmaz and Kavak (2010) investigated the images of primary school students towards informatics and scientists at gender and class level. As the study area of the scientist, students at all grade levels draw the most "laboratories". Also it is seen that most of the male students draw the scientists as male and the female students draw the scientists as female. When evaluated on a class basis, it is observed that the most male scientist figure is used at all class levels.

In this study, Chambers (1983) Draw A Scientists Test-DAST was used. This study was conducted in order to compare especially scientist perceptions of Turkish students and Syrian refugee students in primary school level who attend public schools in Mersin Province currently and who had to immigrate from Syria recently. Mersin Province is among the cities which most allow immigrants in recent years. In this context, Draw A Scientists Test-DAST which was conducted previously on different samples both in our country and in different countries was applied on Syrian refugee students within the scope of this study. It was dwelled on what can be done in the integration of especially refugee students to Turkish Education System by examining scientist perception of two different student groups (difference of their educational background, immigration conditions, etc.) which are included in the same education system.

Research Problem

How is the scientist perception of Syrian and Turkish students attending to primary school?

Sub Problems

1) How is the scientist perception of Syrian students attending to primary school?
2) How is the scientist perception of Turkish students attending to primary school?
3) Is there a difference between scientist perception of Syrian and Turkish students attending to primary school?
4) Do the scientist perceptions of Syrian and Turkish students attending to primary school differ according to gender?

Method

Research Model

Descriptive research method is used in this study. Description; tries to explain events, objects, entities, institutions, groups and various fields are “what” (Karasar, 1999). The data of the study were analyzed using quantitative and qualitative research techniques. Qualitative research can be stated as a research approach which qualitative data collection techniques such as observation, interview, document analysis are used and a qualitative process is applied regarding to setting forth of perceptions and events in a natural environment in a realistic and integrative way (Yıldırım & Şimşek, p. 39).

Study Group

It was targeted within the scope of availability sampling to reach all of the Syrian students in a school by contacting a public school which have so many Syrian students in Yenişehir Subprovince of Mersin Province within the scope of the study. There is a total of 70 Syrian students in the school. All Syrian students who were registered to first, second, third and fourth grades were reached within the scope of the study. However, Syrian students attending to first and second grades still have difficulty about language. Surveying tools were tried to be applied to every student under the guidance of form teachers with the researcher. Since it was seen during the implementation that first and second grade Syrian students couldn't comprehend the concepts of "science and scientist" at all, the research was able to be carried out only with the Syrian students (36 students) in the third and fourth grade. Same surveying tool were implemented also to Turkish students (73 students) in the classrooms of Syrian students participating in the research. Thus scientist perceptions of 109 Syrian and Turkish students in total who study in the same classroom with the same teacher were examined in detail. The distribution of Syrian and Turkish students within the scope of the study is given in Table 1.

Table 1. *The distribution of Syrian and Turkish students within the scope of the study*

	Female	Male	Total
Syrian Students	17	19	36
Turkish Students	47	26	73
Total	64	45	109

Data Collection Tool

In this study Draw A Scientists Test-DAST of Chambers (1983) was used.

Analysis of the Data

The analysis of the drawings was made with reference to codes and themes developed by Chambers (1983), Korkmaz and Kavak (2010), Song and Kim (1999). In the analysis of Chambers (1983:258) DAST test, as the standart (stereotype) specialities of scientist / different criteria are used as;

1. Laboratory coat (especially white)
2. Glasses
3. Facial hair (hair, beard, moustache)
4. Research symbols (scientific tools and laboratory equipment)
5. Knowledge symbols (books and full shelves)
6. Technology (product of science)
7. Related titles (formulas, taxonomic classification, statements such as "I've found it-Eureka", etc.)

The codes acquired by researchers were thematised also by considering the criteria used in DAST analysis. In the drawings of students; codings were performed according to the themes of (1) physical characteristics of scientist, (2) his/her gender, (3) research symbols s/he used, (4) knowledge symbols s/he used, (5) technology, (6) study field and (7) favourite scientists. After the examinations, drawings made by students was coded by two different researchers. Reliability formula [Consensus / (Consensus+Disagreement)] of Miles ve Huberman (1994) was used for the reliability o the codes acquired and reliability coefficient of the codes were determined as 0.90.

Findings

The images of students related to physical characteristics of scientist are given as gender and as Syrian-Turkish students seperately in Table 2.

Table 2. *Frequency and percentage distribution of images related to physical characteristics of scientist*

Gender	Syrian		Turkish	
	Female f (%)	Male f (%)	Female f (%)	Male f (%)
Wearing laboratory coat	1(2.8%)	0	6 (8.2%)	3 (4.1%9
Wearing astronot suit	0	0	1 (1.4%)	2 (2.7%)
Wearing woman dress	4 (11.1%)	0	12 (16.4%)	0
Wearing suit	2 (5.6%)	1 (2.8%)	12 (16.4%)	3 (4.1%)
Wearing a hat	3 (8.3%)	1 (2.8%)	0	1 (1.4%)
Wearing a turban	1 (2.8%)	0	0	1(1.4%)
Wearing glasses	1 (2.8%)	1 (2.8%)	2 (2.7%)	2 (2.7%)
Freckled	0	0	1 (1.4%)	0
Bearded	1 (2.8%)	1 (2.8%)	4 (5.5%)	5 (6.8%)
Moustached	2 (5.6%)	1 (2.8%)	2 (2.7%)	4 (5.5%)
Dishevelled	0	0	2 (2.7%)	3 (4.1%)
Straggly	2 (5.6%)	0	6 (8.2%)	4 (5.5%)
Having rough hair	0	5 (13.9%)	8 (11%)	4 (5.5%)
Having firmly combed hair	8 (22.2%)	1 (2.8%)	25 (34.2%)	6 (8.2%)
Wearing an earring	1 (2.8%)	0	0	0
Blind	0	0	1 (1.4%)	0
Using crutches	0	0	0	1 (1.4%)
Police	0	3 (8.3%)	1 (1.4%)	0

When the images reflected by students with regards to physical characteristics of scientist in their drawings are examined in general; it is seen that scientist perception is in general as; "having firmly combed hair" (n=40), " a man wearing suit" (n=18), "wearing woman dress" (n=16), " Wearing glasses" (n=6), " Bearded" (n=11), "Moustached" (n=9). When the drawings of students are examined, it is seen that especially Syrian female students made more detailed drawings compared to Syrian male students (While female students drew a total of n=26 images, male students drew n= 14 images in total). When they are compared acoording to their gender and nationalities the most attention-grabbing findings are; while both Syrian (n=4) and Turkish (n=12) female students perceives scientists as “someone who wears woman dress", it is seen that any male students have this perception. Male students generally draw scientist as someone "wearing laboratory coat" (Turkish male students n=3; Syrian male students n=1), "Wearing suit" (Turkish male students n=3; Syrian male students n=1). While Turkish students draw "astronot suit" with regards to scientist, such an answer did not come out from Syrian students. (n=4) of Syrian students consubstantiate scientist with "police". It is clearly seen that most of the Syrian students used the themes of police, Turkish flag, plane, car in their drawings frequently due to the war process they had experienced.

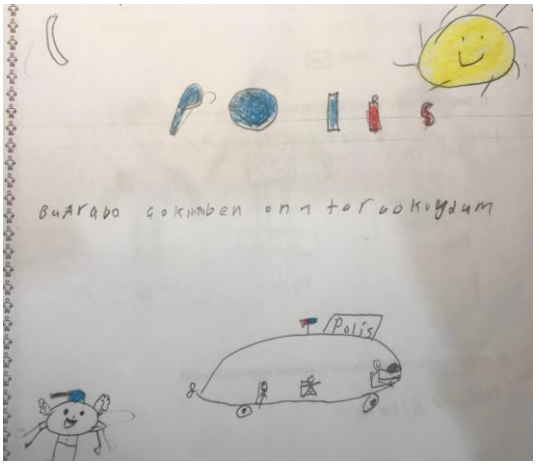

Figure 1 and 2: Emulating scientist to policeman and drawing of Turkish flag.
The drawing on the left (Syrian student, Male, 3. grade),
the drawing on the right (Syrian student, Male, 4. grade)

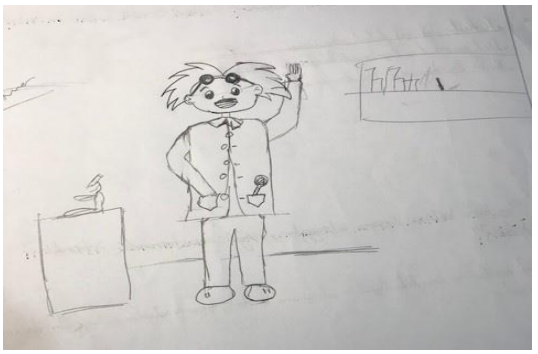

Figure 3: A male scientist wearing coat and glasses with messy hair
(Syrian, Female, 4. grade)

The images of students related to the gender of scientist are given as gender and as Syrian-Turkish students seperately in Table 3.

Table 3. *Frequency and percentage distribution of images related to gender of scientist whom students reflected in their drawings*

	Syrian		Turkish	
Gender	Female f (%)	Male f (%)	Female f (%)	Male f (%)
Female	11 (30.6%)	0	21 (28.8%)	0
Male	6 (16.7%)	19 (52.8%)	26 (35.6%)	26 (35.6%)

When the images reflected by students with regards to gender of scientist in their drawings are examined in general; (n= 11) of Syrian female students and (n= 21) of Turkish female students drew scientist as “female”. All Syrian and Turkish male students reflected the scientist as “male”.

Figure 4: A female scientist with a dress (Turkish, Female, 4. grade)

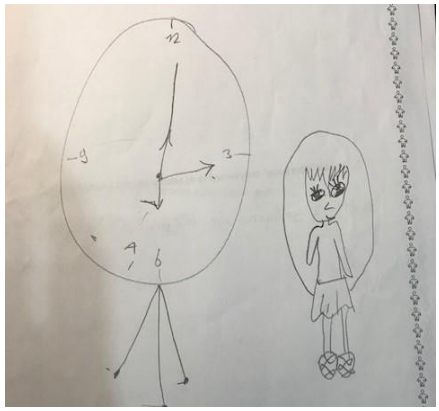

Figure 5: A female scientist with a dress (Syrian, Female, 3. grade)

The images of students related to research symbols used by scientist are given as gender and as Syrian-Turkish students seperately in Table 4.

Table 4. *Frequency and percentage distribution of images related to research symbols used by scientist whom students reflected in their drawings*

	Syrian		Turk	
Research symbols	Female f (%)	Male f (%)	Female f (%)	Male f (%)
Test tube	0	0	15 (20.5%)	6 (8.2%)
Planet	0	0	1 (1.4%)	1 (1.4%)
Microscope	1 (2.8%)	0	0	1 (1.4%)
Dinasaur	0	0	0	1 (1.4%)
Atom	0	0	0	2 (2.7%)
Clock	1 (2.8%)	0	3 (4.1%)	1 (1.4%)
Table (Poster)	0	0	1 (1.4%)	0
Magnifier	0	0	0	1 (1.4%)
Bulb	0	1 (2.8%)	4 (5.5%)	5 (6.8%)
Telescope	0	0	0	1 (1.4%)
Fossil	0	0	0	2 (2.7%)
Table	0	0	12 (16.4%)	6 (8.2%)
Closet	0	0	1 (1.4%)	1 (1.4%)
Ship	0	2 (5.6%)	1 (1.4%)	0
Pallet	1 (2.8%)	1 (2.8%)	1 (1.4%)	0
Insect	0	0	1 (1.4%)	0
Stethoscope	0	0	1 (1.4%)	0
Vaccine	0	0	2 (2.7%)	1 (1.4%)
Tool - Equipment	0	0	0	1 (1.4%)
Medicine	0	0	0	1 (1.4%)
Chair	0	0	0	1 (1.4%)
Dog	0	0	0	1 (1.4%)
Scales	0	0	1(1.4%)	0
Organs	0	0	1(1.4%)	0

When the images reflected by students with regards to research symbols used by scientist in their drawings are examined in general; it is seen that Syrian students gave place to less research symbols compared to Turkish students. (n=1) of Syrian female students drew "microscope", (n=1) "clock" and (n=1) "pallet". Syrian female students drew (n=1) "bulb" and (n=2) "ship". When the drawings of Turkish students are examined, it is seen that they gave place to many various symbols (vaccine, stethoscope, organs, scales, medicine, fossile,

telescope, atom, dinosaur, planet). In general, the symbols which both Syrian and Turkish students drew in common are encountered as pallet, microscope, ship, bulb and clock.

Figure 6. A female scientist researching insects (Turkish, Female, 4. grade)

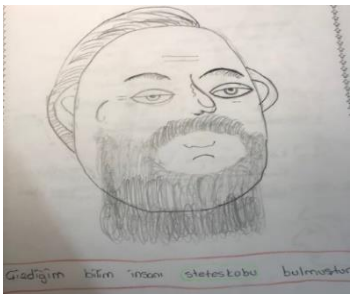

Figure 7: A scientist who invented stethoscope (Turkish, Female, 4. grade)

The images of students related to knowledge symbols used by scientist are given as gender and as Syrian-Turkish students seperately in Table 5.

Table 5. *Frequency and percentage distribution of images related to knowledge symbols used by scientist whom students reflected in their drawings*

	Syrian		Turkish	
Knowledge Symbols	Female f (%)	Male f (%)	Female f (%)	Male f (%)
Book	0	0	3 (4.1%)	1 (1.4%)
Pen	1 (2.8%)	1 (2.8%)	1 (1.4%)	0
Formulas	0	0	4 (5.5%)	2 (2.7%)
Board	2 (5.6%)	0	0	0
Coordinates	0	0	0	1 (1.4%)
Dry ice	0	0	1 (1.4%)	0
Gravity	0	0	0	1 (1.4%)
Virus	0	0	2 (2.7%)	0
Microp e	0	0	1 (1.4%)	0

When the images reflected by students with regards to knowledge symbols used by scientist in their drawings are examined in general; it is seen that Syrian students used only two symbols. These are "pen" and "board". When the drawings of Turkish students are examined, it is seen that they gave place to symbols of "book", "pen", "formulas", "coordinates", "dry ice", "gravity", "virus", "microp e".

Figure 8: Figure 8: A female scientist researching viruses (Turkish, Female, 4. Grade)

Figure 9: A female scientist making experiment with dry ice (Turkish, Female, 3. Grade)

Figure 10: Scientist who an apple falling on his head and finding gravity
(Turkish, Male, 3. Grade)

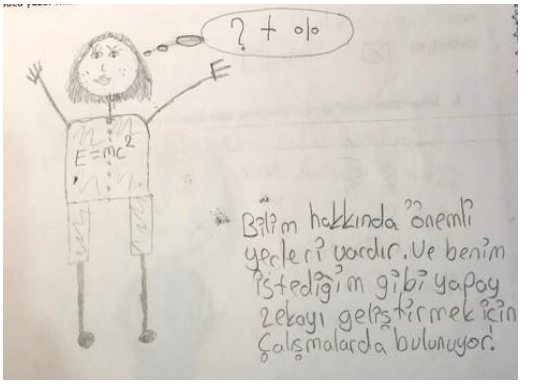

Figure 11: A female scientist who makes calculations with formulas and researches artificial intelligence
(Turkish, Female, 4. Grade)

The images of students related to technology used by scientist are given as gender and as Syrian-Turkish students seperately in Table 6.

Table 6. *Frequency and percentage distribution of images related to technology used by scientist*

	Syrian		Turkish	
Technology	Female f (%)	Male f (%)	Female f (%)	Male f (%)
Washing machine	0	1 (2.8%)	0	0
Time (teleportation)	1 (2.8%)	0	2 (2.7%)	2 (2.7%)
Computer	0	0	1 (1.4%)	1 (1.4%)
Tablet	0	1 (2.8%)	0	0
Robot	0	2 (5.6%)	3 (4.1%)	3 (4.1%)
Telephone	1 (2.8%)	1 (2.8%)	1 (1.4%)	0
Spaceship	0	2 (5.6%)	1 (1.4%)	1 (1.4%)
Refrigerator	0	0	1 (1.4%)	1 (1.4%)
Artificial Intelligence	0	0	1 (1.4%)	0
Internet	0	0	1 (1.4%)	0
Special Glasses	0	0	1 (1.4%)	1 (1.4%)
Flying shoe	0	0	2 (2.7%)	1 (1.4%)
Magic carpet	0	0	1 (1.4%)	0
Flying car	0	4 (11.1%)	2 (2.7%)	2 (2.7%)
Flying house	0	1 (2.8%)	0	1 (1.4%)
Fast police car	0	1 (2.8%)	0	0
Automatic piano	1 (2.8%)	0	0	0

When the images reflected by students with regards to technology used by scientist in their drawings are examined in general; it is seen that Syrian students drew "time machine", "telephone", "automatic piano", "washing machine", "tablet", "robot", "spaceship", "flying car", “flying house", "fast police car" in a limited number. There are differences in the answers of Turkish students both in quantity and variety. Turkish students drew "time machine","computer", "robot", "telephone", "spaceship", "internet", "artificial intelligence", “refrigerator”, "special glasses", “flying shoe", "flying car", “flying house", "magic carpet". It is seen that common images of Syrian and Turkish children related to technology are "time machine", "spaceship", "flying car" and “flying house". The answer of "fast police car" belonging to a Syrian student confronts us again as an attention-grabbing answer. Syrian children use the concepts of "police", "police car" frequently in their pictures.

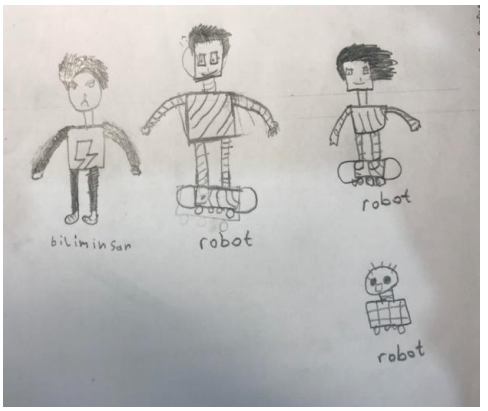

Figure 12: Scientist producing robot
(Syrian Student, Male, 3. grade)

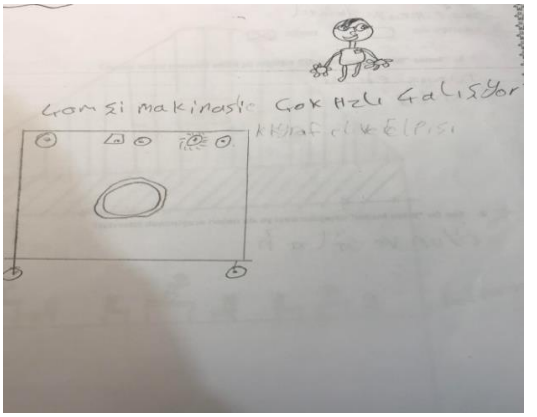

Figure 13: Scientist producing a fast washing machine
(Syrian Student, Male, 4. grade)

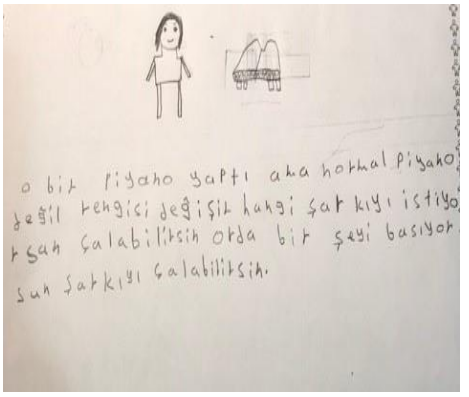

Figure 14: Scientist producing automatic piano
(Syrian Student, Male, 4. grade)

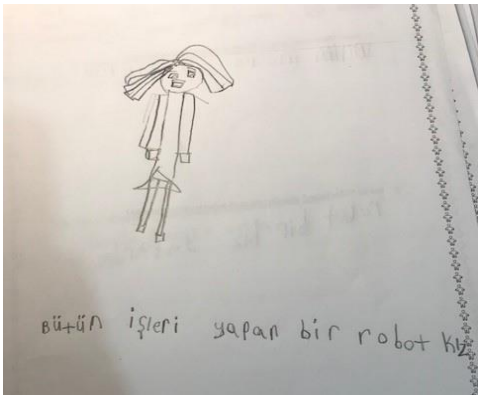

Figure 15: Scientist making a robot
(Turkish, Female, 4. grade)

The images of students related to working area of scientist are given as gender and as Syrian-Turkish students seperately in Table 7.

Table 7. *Frequency and percentage distribution of images related to working area of scientist whom students reflected in their drawings*

	Syrian		Turkish	
Working area	Female f (%)	Male f (%)	Female f (%)	Male f (%)
Laboratory	1 (2.8%)	0	14 (19.2%)	6 (8.2%)
Sea	0	2 (5.6%)	2 (2.7%)	0
Nature	1 (2.8%)	3 (8.3%)	1 (1.4%)	2 (2.7%)
House	6 (16.7%)	1 (2.8%)	1 (1.4%)	2 (2.7%)
Unidentified place	7 (19.4%)	12 (33.3%)	25 (34.2%)	14 (19.2%)
Space	0	1 (2.8%)	2 (2.7%)	2 (2.7%)
Classroom	1 (2.8%)	1 (2.8%)	1 (1.4 %)	0

When the images reflected by students with regards to working area of scientist in their drawings are examined in general; Syrian students drew places of "laboratory (n=2)", "sea (n=2)", "nature (n=4)", "house (n=7)", "classroom (n=2)", and "space (n=2)" ; Turkish students drew places of "laboratory (n=20)", "sea (n=2)", "nature (n=3)", “house (n=3)" and "space (n=4)”.

Figure 15: Scientist making experiment in the environment of a class (Turkish student, Female, 3. grade)

Figure 16: Scientists making research in space (Syrian student, Male, 3. grade)

The images of students related to their favourite scientists are given as gender and as Syrian-Turkish students seperately in Table 8.

Table 8. *Frequency and percentage distribution of images related to favourite scientists of students*

	Syrian		Turkish	
Scientists	Female f (%)	Male f (%)	Female f (%)	Male f (%)
Thomas Edison	5 (13.9%)	4 (11.1%)	22 (30.1%)	16 (21.9%)
Albert Einstein	0	1 (2.8%)	16 (21.9%)	9 (12.3%)
Graham Bell	0	2 (5.6%)	13 (17.8%)	8 (11%)
Leonardo Da Vinci	0	0	1 (1.4%)	2 (2.7%)
Isaac Newton	0	0	1 (1.4%)	0
Nicola Tesla	1 (2.8%)	0	4 (5.5%)	5 (6.8%)
Marie Curie	0	0	2 (2.7%)	2 (2.7%)
Louis Pasteur	0	0	4 (5.5%)	3 (4.1%)
Pythagoras	0	0	6 (8.2%)	4 (5.5%)
Magellan	0	0	5 (6.8%)	2 (2.7%)
Avicenna	0	0	6 (8.2%)	0
Al-Jazari	2 (5.6%)	0	1 (1.4%)	2 (2.7%)
Al-Biruni	0	0	6 (8.2%)	0
Cahit Arf	0	0	5 (6.8%)	0
Mimar Sinan	1 (2.8%)	0	3 (4.1%)	0
Aziz Sancar	0	0	3 (4.1%)	0
Piri Reis	2 (5.6%)	0	1 (1.4%)	0
Niccolo Conti	0	0	2 (2.7%)	1 (1.4%)
Hezarfen Ahmed Çelebi	1 (2.8%)	0	0	1 (1.4%)
Yuri Gagarin	0	0	0	1 (1.4%)
Nikolaus Otto	0	0	1 (1.4%)	0
Willis Carrier	0	0	1 (1.4%)	0
Al Kindi	0	0	1 (1.4%)	0
James Watt	0	0	1 (1.4%)	0
Galileo Galilei	0	0	0	1 (1.4%)
Archimedes	0	0	0	1 (1.4%)
Ali Kuşçu	0	0	1 (1.4%)	0
Charles Bob	0	0	1 (1.4%)	0
Elisha Olis	0	0	1 (1.4%)	0

Karl Friedrich Benz	0	0	1 (1.4%)	1 (1.4%)
Igor Skorsky	0	0	0	1 (1.4%)
Bobbit	0	0	1 (1.4%)	0
Jacob Perkins	0	0	0	1 (1.4%)
Fuat Sezgin	0	0	1 (14%)	0
Gazi Yaşargil	0	0	1 (1.4%)	0
George De Mestral	0	0	1 (1.4%)	0
Robert Hooke	0	0	1 (1.4%)	0
Other	1 (5.6%)	0	0	0

When the images reflected by students with regards to their favourite scientists are examined in general; Syrian students specified the names of "Thomas Edison" (n=9), "Al-Jazari" (n=2), "Piri Reis" (n=2), " Nicola Tesla" (n=1), " Hezarfen Ahmed Çelebi" (n=1). But, in the table under the title of "other" two students answered as "Elvis Presley and Agatha Christie" when called scientist. It is seen that they mixed the concepts of scientist and artist. It is seen that Turkish students mentioned so many scientists from different study areas in their drawings. Turkish students like Syrian students sorted as "Thomas Edison" (n=38) at the first place, "Albert Einstein" (n= 25) as second and "Graham Bell" (n= 21) as the third. When the scientists shared by Turkish students are examined, it is seen that they mentioned Turkish scientists as well as foreign scientists. Scientist such as "Cahit Arf", "Aziz Sancar", "Gazi Yaşargil", "Ali Kuşçu" draw attention. But the percentage of the answers given is not as higher as the answers given as foreign scientists. Students predominantly share foreign scientists as answer.

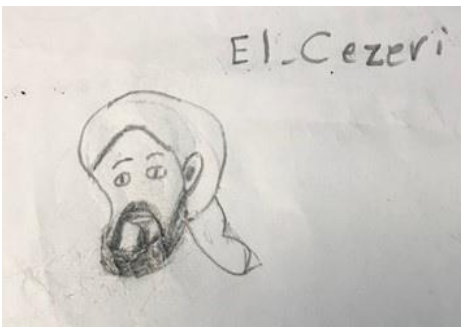

Figure 17: A drawing representing Al-Jazari (Syrian, Female, 4. Grade)

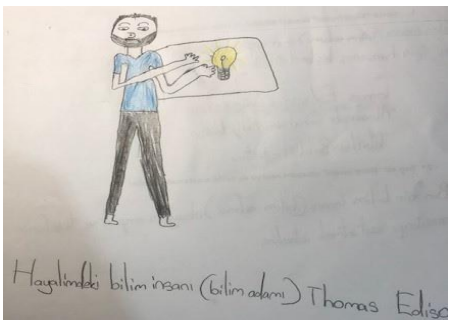

Figure 18: A drawing representing Thomas Edison (Turkish, Female, 4. Grade)

Discussion, Result and Suggestions

In general, within the scope of this research, the scientist perceptions of the Syrian students who immigrate from their country because of war and Turkish students attending to same classroom researched deeply. In this context, the drawings of Syrian and Turkish students are analysed in detail. Codings were performed under 7 different themes in total. It was seen that in general, the drawings of Syrian children are quite limited compared to Turkish children. Especially, three of Syrian children drawing “policeman” picture when called scientist shows how much the children were affected from the events they had experienced. Turkish flag and Turkey love draw attention in the drawings of Syrian children. Another attention-grabbing point while the drawings are examined is that both all Turkish and Syrian male children drew “male” figure when called scientist. There was no male student drawing “female” scientist. Approxiametely 30% of both Syrian and Turkish students among female students drew female scientist. In consequence of the acquired findings, similarities are seen when the other studies conducted about scientist perception in the literature (Chambers, 1983; Mead and Metraux,1957; Barman, 1997) are examined. Unfortunately; today “male” figure domination still continues when it is called scientist. Even bigger part of the female students drew “male” as scientist. In this scope, for the consideration of scientist concept indepently from gender,

our teachers should refer to successful scientists raised in our country. In particular, various awareness studies can be conducted about female scientists. School-wide activities can be carried out related to scientists.

As for physical characteristics of scientist both student group described scientist as someone “who has firmly combed hair, wears firm clothes”. Drawings including woman dress and suit are more than the ones including scientists wearing laboratory coats. This finding differs from the other studies in the literature. While in the most of previous studies (Mead and Metraux, 1957; Korkmaz and Kavak, 2010) children characterized scientist as having straggly hair and bedraggled, the scientist perception of today transformed into a straighter and firm person.

As for research symbols used by scientist, while Syrian students gave place to the symbols of microscope, clock, pallet, bulb and ship, Turkish students gave place to much more various symbols (vaccine, stethoscope, organs, scales, medicine, fossile, telescope, atom, dinosaur, planet). Also, the images which students reflected with regards to knowledge symbols used by scientist in their drawings differs. While Syrian students drew only pen and board, Turkish students drew the symbols of book, pen, formulas, coordinates, dry ice, gravity, virus and microp e. Also, in this category, it is seen that knowledge symbols images of Syrian students is quite limited. Especially, in science classes the lives of scientists can be told through stories their story can be read. Animation activities can be carried out with drama method. Activities improving the showing emphaty skills of children towards scientist should be given place.

When the images reflected by students with regards to technology used by scientist in their drawings are examined in general; it is seen that the common images of Syrian and Turkish children related to technology are time machine, spaceship, flying car and flying house. Again it drew attention that image variety in Turkish students are much more. For example; the concept of artificial intelligence is just encountered in the drawings of Turkish children. It could be ensured that children keep up with the latest developments throught the world by enabling them to follow up Tübitak popular science books and publishings like "Bilim Çocuk" (Science Kid) magazine starting from the primary school and also by making them watch videos, animations from scientific resources in the related subjects. Teachers should be instructive in the subjects which are on the agenda in recent years such as robotics, coding, space researches, artificial intelligence.

As for working area of scientist, in general most students abstained from specifying a place in both student groups. While a clear majority of Turkish students drew scientist while making experiments in the laboratory, Syrian students mostly drew them while studying in the nature or at home. These findings show similarity with the study of Song and Kim (1999). In this scope, some out-of-class activities, excursions can be organized in order to emphasize that scientists are not able to make studies only in the laboratory environment but also in different environments. The working area of scientists who work in different branches can be given as an example in the lessons.

When the drawings under the category of favourite scientist are examined, Thomas Edison took the first place in the favourite scientist rankings of both Syrian and Turkish students. Syrian students specified "Al-Jazari", "Piri Reis", " Nicola Tesla" and "Hezarfen Ahmed Çelebi" respectively following Thomas Edison. Turkish students told “Albert Einstein” and “Graham Bell” in the third place. Similarly, in the study of Korkmaz and Kavak (2010) students ranked “Einstein” in the first place as favourite scientist and then "Edison", "Marie Curie", Graham Bell, Newton, Robert Boyle, Archimedes, Pasteur, Leonardo Da Vinci, Avicenna et. al respectively. All students shared foreign scientists as answer more than Turkish scientists. This finding is quite attention-grabbing. Unfortunately, although there are quite successful scientists raised in our country, only few children shared these names. In this context, Turkish scientists who have studies in the related area should be especially mentioned while the curriculum is implemented in all lessons, science lessons being in the first place and in club studies like science club in primary school. Events (conferences, interviews, etc.) can be arranged to meet with students and scientists who are alive and have innumerable contributions to science. A large number of valuable scientists trained in our country still work in many of the world's number of institutions and universities. The messages that these

valuable scientists, who can be reached very easily even through social media, will give children early on is also very important. Appropriate books to the level of children telling about the lives of scientists can also be recommended for reading in their spare time.

One of the most important aspects of the research was the comparison of scientists' perceptions of Syrian and Turkish students. In the consequence of this study, it is seen that in general Syrian students gave limited answers compared to Turkish students with regards to scientist perception. It was seen that problems were experienced with Syrian students about language in the school which was visited for implementation. Since the children were not able to express themselves in a language different from their mother language comfortably, they experienced difficulties in drawing compared to Turkish students. The need of Syrian students gaining Turkish language skills which they can communicate with their teachers and each other obviously confronts us. When the other studies conducted with Syrian children are examined, it is specified that they find it difficult to get on with their compeers and so they mostly become lonely due to not socializing, and teachers feel themselves insufficient about solving the problem because of not confronting such a situation before and they are torn between the families of the other children in their classroom and refugee children (Uzun ve Bütün, 2016, p.79). In this context, plannings should be performed with regards to integration of also Syrian students to education process. Precautions must be taken in order to eliminate these differences in science and scientist perceptions of children who are in the same age group who study at the same grade, and same school. School administration and teachers may organize activities with the parents of Syrian students during out-of-class period. Form teachers should plan the education process by considering the differences between the children while implementing the curriculum. All educators, academicians should display the required sensitivity for all children living in the same society benefiting from similar conditions.

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Journal of Education and Future
year: 2018, issue: 14, 87-105

Perceptions about Literacy in Primary School Student Drawings *

Ömer Faruk Tavşanlı** **Abdullah Kaldırım*****

Abstract

Developing the individual's literacy skills at early ages both creates the foundation of academic achievement and determines the borders of the achievement in personal, social, professional and social life. Perceptions about literacy have a more important role in development process of literacy skills although there are numerous variables effecting mentioned skills. The aim of this study is to reveal the perceptions of primary school second grade students about literacy through their drawings and face to face interviews. Phenomenological research among qualitative research patterns was used and descriptive phenomenology, one of the phenomenological research types was used in the research implementation process. The research group of the study consists of 17 students studying at 2nd grade. The research data includes student drawings about literacy, unstructured interviews about the drawings and semi-structured interviews independent from the drawings about literacy perceptions. According to the study results, the students see literacy studies as the studies that should be done in classroom. It has been concluded that the students used objects about reading in their drawings; in other words, the students assign meaning mostly to reading rather than writing when the concept of literacy is expressed. According to the research results, continuous works need to be done related how to transform an activity that literacy will carry out in daily life with the joy of the students.

Keywords: literacy development, phenomenology, reading, writing

* A part of this research was orally presented 4th International Eurasian Educational Research Congress

** Res. Assist., Bursa Uludağ University, Faculty of Education, Department of Elementart Education, Bursa, Turkey. E-mail: omerfaruktavsanli@gmail.com ORCID ID: 0000-0003-1366-1679

*** Res. Assist., Dumlupınar University, Faculty of Education, Department of Turkish Language Education, Kutahya, Turkey. E-mail: abdullahkaldirim@gmail.com ORCID ID: 0000-0003-0582-4159

İlkokul Öğrencilerinin Resimlerindeki Okuryazarlık Algısı

Öz

Bireylerin okuryazarlık becerilerinin erken yaşlardan itibaren geliştirilmesi hem akademik başarının temelini oluşturmakta hem de kişisel, sosyal, mesleki ve toplumsal hayattaki başarıların sınırlarını belirlemektedir. Okuryazarlık becerilerinin gelişimini etkileyen çok sayıda değişken bulunmasına rağmen, okuryazarlığa ilişkin algılar söz konusu becerilerin gelişim süreci içerisinde daha önemli bir rol üstlenmektedir. Bu araştırmanın amacı da ilkokul ikinci sınıf öğrencilerinin okuryazarlık algılarını yaptıkları resimler ve birebir gerçekleştirilen görüşmeler aracılığıyla ortaya çıkarmaktır. Araştırmada nitel araştırma desenlerinden fenomenolojik araştırma deseni kullanılmış ve araştırmanın gerçekleştirilmesi sürecinde fenomenolojik araştırma türlerinden biri olan betimleyici fenomenoloji tercih edilmiştir. Araştırmanın çalışma grubunu ilkokul 2. sınıf düzeyinde öğrenim gören 17 öğrenci oluşturmaktadır. Araştırmanın verilerini; öğrencilerin okuryazarlık konusunda yapmış oldukları resimler, resimler hakkında gerçekleştirilen yapılandırılmamış görüşmeler ve resimlerden bağımsız olarak okuryazarlık algıları hakkında yapılan yarı yapılandırılmış görüşmeler oluşturmaktadır. Araştırmanın sonuçlarına göre öğrenciler okuryazarlık çalışmalarını daha çok sınıf içerisinde yapılması gereken çalışmalar olarak görmektedir. Öğrencilerin resimlerinde daha çok okuma ile ilgili nesneleri kullandığı tespit edilmiştir. Bu durum öğrencilerin okuryazarlık dendiğinde yazmadan ziyade okumaya daha fazla anlam yükledikleri sonucunu ortaya çıkmaktadır. Öğrencilerin okuryazarlık ile ilgili olarak daha ziyade öğrenci ve öğretmen kavramlarını ön plana çıkardığı görülmüştür. Araştırmanın sonuçlarına göre, okur yazarlığın günlük yaşamda öğrencinin keyif alarak kullanacağı bir faaliyete nasıl dönüştürüleceğine yönelik çalışmalara oldukça ihtiyaç duyulduğu tespit edilmiştir.

Anahtar Sözcükler: okuryazarlık gelişimi, fenomenoloji, okuma, yazma

Introduction

Developing the individual's literacy skills at early ages both creates the foundation of academic achievement and determines the borders of the achievement in personal and social life (McCarthey, 2001). Therefore, training individuals who perform reading and writing activities in a qualified way is approached as an important matter all around the world (Beach & Ward, 2013; Gerde, Bingham, & Basik, 2012; Smith, 2008). It can be thought that literacy contributes a lot to personal and social life when the fact that reading and writing practices underlie educational activities is considered because the individual creates and develops his economic, social and cultural wealth through literacy skills. On the condition that educational activities are performed in a qualified way, then it is provided that the individual explores new technologies or uses existing technology more effectively, the society prospers, democratic development is contributed and crime rate decreases (McMahon, 2000). If reverse, unemployment in mentioned fields, bad work conditions, low payment and loss of right, thereby deprivation and poverty reveal (Banks, 2003). In this context, it can be stated that literacy is one of the most important factors affecting development of individual in short term and society in general.

Perceptions about literacy have a more important role in development process of literacy skills although there are numerous variables effecting mentioned skills. The reason for this situation is that the individual interprets the knowledge obtained through experience by combining with the knowledge and experiences he has obtained before and shapes his opinion according to this interpretation in continuing process during comprehension process (Ersoy & Türkkan, 2009). Within this frame, it can be said that literacy perception effects literacy development and reading-writing achievement –one of the most important tools of learning. Therefore, it is thought that the studies deeply investigating literacy perceptions of the individuals are needed. As the mentioned research will be done at primary level - providing basis for literacy- it will provide understanding the variables underlying literacy more clearly.

The studies in which the children are taken into the centre and their interests are considered are more frequently encountered in recent years (Einarsdottir, Dockett, & Perry, 2009; Cox, 2013). As the drawings present an alternative way for interpreting children perceptions (Kendrick & McKay, 2002) and gather many components (Malchiodi, 1998), they are the leading data collection tools preferred in these researches (Punch, 2002). Investigating the studies done, it is seen that there are a lot of studies investigating student perceptions of nature (Hague, 2001; Yılmaz, Kubiatko, & Topal, 2012), environment (Özsoy, 2012; Özsoy & Ahi, 2014), family (Türkcan, 2004), school principal (Yalçın ve Erginer, 2014), scientist (Buldu, 2006; Oğuz, 2007; Özel, 2012; Rodari, 2007; Turkmen, 2008), learning (Lodge, 2007) and teacher (Aktas, 2010; Aykaç, 2012; Dağlıoğlu, 2011; Harrison, Clarke, & Ungerer, 2007; Ahi, Cingi, & Kıldan, 2016) through drawings. Additionally, it has become one of the techniques used for individual recognition. Yet more, it is accepted by many experts that there is a significant relationship between personality characteristics and the drawings of individuals (Freeman, 1976; Thomas & Silk, 1990; Malchiodi, 1998; Radburn, 2017). Because of this feature, obtaining information about individual by using drawings and accordingly performing both psychological and educational studies attracts attention as a more preferred situation.

Gardner (1980) stated that children drawings are effective communication methods for understanding their complex cognitive structures. Drawing refers to bringing out a new original product for children. Drawing which is an important process for children requires actively using various types of cognitive, affective and psychomotor skills (Anning & Ring, 2004). It is expected from the children to decide on the event intended to be explained, the way of expressing this, the shape of drawing, the colours to be used, the way of reflecting their opinion and on a convenient composition during drawing process (Malchiodi, 1998). Venger (2007) stated that the children drawings are the reflections of their opinions about the subject of the drawing. Regarding this statement, it can be said that the drawings provide relatively significant clues for families and pedagogues in communicating with children and determining the problems experienced by children (Artut, 2002).

Individuals' attitudes towards the drawing and the structure reflected in the drawing are generally related to the experiences and world-views of them. This informs about experiences, attitudes and beliefs in addition to their personality traits (Halmatov, 2016). The fact that the drawings are related to experiences, attitudes and beliefs of their performers is accepted by a lot of experts (Freeman, 1976; Thomas & Silk, 1990; Malchiodi, 1998; Otake, Treiman & Yin, 2017). From this perspective, leading students to draw is one of the most entertaining ways of identifying them (Fargas-Malet, McSherry, Larkin, & Robinson, 2010; Venger, 2007). In that children might not easily express their opinions for the fear of being condemned and criticised. Hence, it is thought that the children can reflect their emotions and opinions which they cannot express in speaking or writing through drawings freely. Talking and making interviews about the drawings will also provide their emotions and opinions with being understood better (Halmatov, 2016). According to the views of the experts, studying on drawing tests and children drawings are invaluable for obtaining information about emotions and opinions, life expectations and lives of children (Halmatov, 2016; Malchiodi, 1998; Venger, 2007). Within this frame, the study intended to be performed will provide determining how students regard themselves as a literate. The matter of the children opinions on literacy, their way of describing literacy and their way of improving literacy skills always protects its popularity (Mckay & Kendrick, 2001). It is purposed to determine the student perceptions towards literacy, thereby to help pedagogues find effective solutions by means of both guiding further studies and correctly determining related problems with reference to student perceptions of literacy through the study that will be performed. Within this scope, the purpose of the study is "to reveal 2nd grade primary student perceptions towards literacy through their drawings." In accordance with this aim, answers for the questions "How do primary students reflect their literacy perceptions in drawings?" and "What are the similarities and differences between primary students' literacy perceptions and oral views?" will be searched.

Method

This study is a phenomenological study. Descriptive phenomenology, one of the phenomenological research types, is preferred in research process. Descriptive phenomenology, which is concerned with what individual knows and tries to describe this knowledge, holds an epistemological point of view (Ersoy, 2016). It is generally intended to reveal individuals' perceptions and opinions on a certain concept based on their experiences in phenomenological studies (Reiners, 2012; Yıldırım & Şimşek, 2005). This method makes it possible to deeply and multi-dimensionally investigate a concept on which we have partial knowledge and have problems in making sense (Creswell, 2012). Thus, investigating drawings obtained from students through descriptive phenomenology pattern makes it easier to reach meanings loaded to the concept searched, the drawing context through meanings and worldview shaping drawing context of the student (Malchiodi, 1998). Within this context, students' literacy perceptions have been investigated through student drawings about literacy concept, interviews on drawings and interviews about literacy perceptions independent from drawings in the study.

Participants

The participants of the research are determined and chosen among a group of people who have experience and knowledge about the concept investigated in phenomenological researches. 17 students studying at 2nd grade participated in the study. Criterion sampling technique, which is one of the purposeful sampling techniques, was used in the research for determining research participants. According to criterion sampling technique, individuals who provide certain criteria determined before should be included in the research (Christensen Johnson, & Turner, 2015).

Within this frame, the criteria were determined as that the students should be studying at a grade in which writing and reading have been recently learnt in terms of being an age creating a basis for literacy perception. Within this scope, the second-grade students who learnt reading-writing and experienced these processes were included in the research. However, reading and writing activities were implemented to the participants for 12 weeks in different environments in case that mentioned students did not adequately experience

reading-writing processes. The students read 60 texts and also took charge in writing process of 51 texts actively during this period. After completing aforesaid activities, the data collection stage was initiated.

Data Collection

The research data was collected through student drawings about literacy, unstructured interviews about drawings and semi-structured interviews about literacy perceptions -done independently from drawings. The data of the research were collected between January 2017-February 2017 after the writing and reading activities done in different environments during 12 weeks were completed. In data collection period:

1. The students were asked for expressing their opinions on literacy by drawing. In this stage, they were given a course hour (40 mins), they completed their drawings under supervision of their teacher and researchers.

2. After collecting all student drawings, the researchers investigated drawings and evaluated them under 4 themes. After the related themes were determined, unstructured interviews were done about student drawings in the periods during which both the students and the researchers were available. Firstly, the students were asked for explaining their drawings during interviews and then some certain parts were required to be clarified in accordance with the determined themes. In continuing stages of the interview, additional questions were asked by the researchers considering both the student answers and some outstanding points of the drawings. The average duration of the interviews was 10 minutes.

3. Unstructured interviews were done about the drawings and then semi-structured interviews were done on literacy perceptions of the students independently from drawings a week later. The related literature was scanned when semi-structured interview questions were prepared, then three primary teachers and a domain expert was negotiated with. 10-question semi-structured interview form was prepared in accordance with pre-interviews and the literature review. The related form was presented to the information of three domain experts studying on literacy at primary level. As a result of expert opinions and suggestions, two questions were ejected; some questions were edited. After the related editions, the semi-structured interview form including 8 questions was sent to the domain experts again and it was decided that the form was convenient for the study according to the feedbacks stated by the experts. Before the original interviews were done with the students, pilot interviews were held with 5 students. During the pilot interviews, it was tested whether semi-structured interview questions were consistent with the purpose of the study and properly understood by the students. It was decided that the semi-structured interview questions were convenient for the study as a consequence of pilot interviews. Interview questions are respectively stated below:

- What does being literate mean for you? What occurs in your mind when you hear about literacy?
- Is being a literate person important? If so, what are the reasons?
- What are the characteristics of a literate person for you?
- What kind of changes does being a literate person cause in someone's life?
- Where can be literacy activities done? Why?
- Which one is more important in your opinion: reading or writing? Why? Can you compare the two?
- Can you count the people occur in your mind when you hear literacy? What are the reasons of you for counting these people?
- What would you do incompetently or could not do if you were not literate? Can you explain it with the reasons?

The unstructured and semi-structured interviews were held by the researchers. The interview place was prepared beforehand; necessary devices were supplied, set and tested. Thus, it was intended to avoid any possible problems that could occur during interviews. When the researcher was managing the interview, he particularly tried not to be directive and to keep the subject within the borders of the research purpose. At the beginning of the interviews, the participants and their parents were informed about the research, they were

demanded to review the questions asked and their written permissions were taken for voice recording during interviews.

Recording the unstructured and semi-structured interviews took 176 minutes. Then these recordings were analysed. 74 pages of data were totally obtained from data analysis. When transforming the data into the texts, the conversations of the researchers and students were written in their original words and it was attached importance to provide accuracy of these documents. In order to provide data reliability, obtained voice records were followed by two other domain experts except for the researchers and compared with the documents (Çolak & Uzuner, 2004).

Data Analysis

Content analysis method was used for data analysis. Content analysis method was preferred in order to determine the existence of the words, concepts and character and to reveal the relationships underlying them (Merriam, 1998; Kızıltepe, 2015). Within this frame, the operation of grouping the student drawings under similar themes was initially done in data analysis of the drawings. Certain codings were done under these themes and the number of repetitions about related codes was determined. Grouping under themes and coding studies were done for each drawing by both researchers. The analyses of the researchers were compared at the end of the analysis period and the opinions of a third researcher were taken for the codes evaluated differently. After related studies, the themes and codes of the drawings were confirmed. After obtaining the themes, the interviews with the students were analysed in order that the problem of *"interpretation of the drawings by adults"* -experienced in drawing analysis and one of the biggest problems in drawing analysis- could be avoided. The data collected from face to face interviews were analysed and transformed into written texts. After the written texts were completed, the statements obtained from the interviews were matched with the themes and codes determined by drawing analysis. Thus, it was aimed to determine whether the themes, codes and statements supported each other.

In the last stage of the data analysis, analysis of the interviews done on literacy with the students was included. The data obtained by face to face interviews were analysed and transformed into written texts in this part; convenient codes were developed by investigating the interviews one by one. The obtained codes were grouped under similar headings and related themes were reached. Then the codes were matched with the themes. After completing analysis; student drawings, semi-structured interviews on student drawings and unstructured interviews independent from student drawings on literacy were investigated comparatively, then the similarities and differences of these three data types were determined. Hereby these data were investigated deeply. Additionally, it was provided that more than one researcher took roles in data collection, analysis and interpretation processes. Thus, it was purposed to increase the research credibility by varying data sources and researcher number.

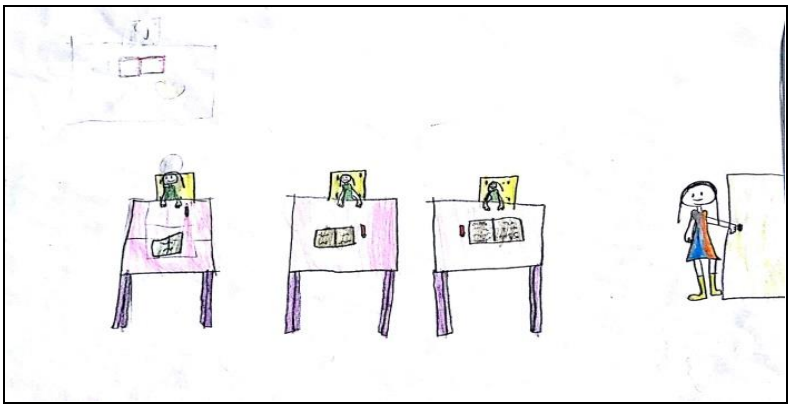
Findings

The findings obtained at the end of the research were titled and investigated as "the findings about students' literacy perceptions in their drawings and the interviews on these drawings" and "the findings about literacy perceptions in the interviews with the students".

Literacy Perceptions in Drawings

The students were asked for drawing a picture creating an answer for the question of "What occurs in your mind when you hear about literacy?" in order to determine their literacy perceptions. The drawings were investigated by two researchers separately after they were collected and then four themes were determined with reference to the drawings to make analyses. These themes are "drawing place", "drawing objects", "drawing people" and "drawing case (emphasis)". Additionally, the interviews done about drawings with the students were included in the analysis and used for explaining the related themes. Thus, it was provided that the drawings were understood better and the obtained themes were supported by student expressions.

Initially, the places where the students draw their pictures were investigated. The students mostly included in-classroom visuals in their drawings about literacy (see picture 1). Following visuals are outside, inside of a book and students' own rooms. From these findings, it is understood that the students majorly think that the literacy studies should be practiced in classroom.



Picture 1. Drawing place (in classroom)

In the interviews performed, the students stated that the literary studies could not be limited with the classroom environment. However, the fact that the number of the students drawing classroom environment is high can be interpreted as that the concept of literacy is identified with classroom environment in students' mind. Besides, it has been revealed that the students do not have a misconception as "Literacy activities can be done only in classroom environment." as a consequence of the interviews. The views of the students on this subject are like;

> Ajda: *"It does not have to be in classroom absolutely. It can be at home also. My mother always reads books at home."*
>
> Orçun: *"We can do it at school and etude. We can do it everywhere we go. It depends on having book and notebook with us. Otherwise we cannot. In that we do not have something to read then.*
>
> Neşe: *"We can do it at home, we can do when we go for a picnic outside for instance. But it should be a beautiful and clean place."*

As the second theme, the objects and the related learning domain (reading writing) with these objects were investigated. It appears that the students used 182 objects in their drawings. It has been determined that 142 objects were used relatedly to reading domain, 100 relatedly to writing domain and 62 objects were used relatedly to both wiring and reading domains. The objects (from most frequent to rarest) are: book, table, desk, pencil, eraser, writing board, show-board, bookcase, smart board and reading lamp. From this point of view, it is concluded that the students majorly used objects related to reading in their drawings, namely they identified literacy with reading rather than writing. The student expressions in regard to caring both reading and writing stand out in the interviews practiced. The supporting views of this finding are stated below:

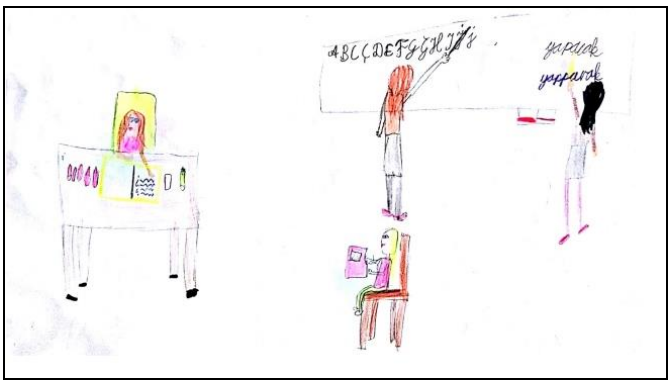
> Ceyda: *"Both are important. For example, a letter is delivered to us but we cannot read it if we do not know how to reading. A friend writes a letter for us but we cannot read as we do not know how to read if we do not know how to write. Our mother can read but we also want to write. However, we cannot write as we do not know."*
>
> Neşe: *"I think both are important. We use both of them. We both write and read in lessons when we learn."*

In addition to the opinions above, the expressions stating that reading is more important attract attention in terms of forming an oral evidence for the distribution of the drawing objects according to learning domains.

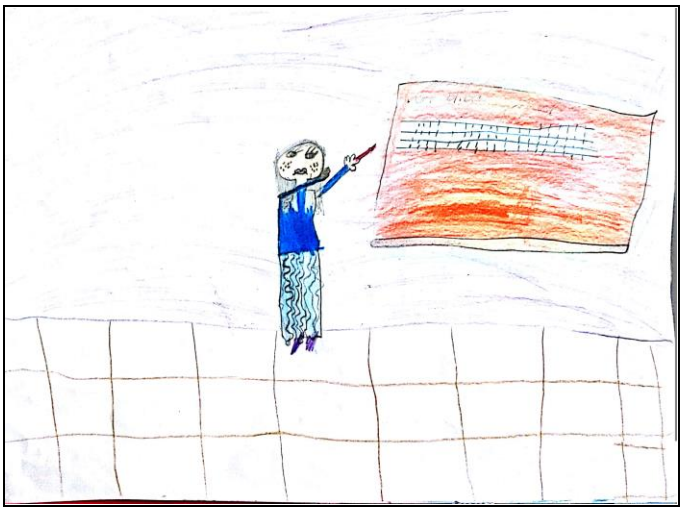
Kasım: *"Reading, mainly reading occurs in my mind. I think reading is much more because we write less often. For example, we can read everything outside but we cannot write."*

Burak: *"Knowing how to read is important, knowing how to write is also important but not that much. We cannot read anything for instance writings if we do not know how to read. However, nothing happens in writing."*

Investigating the people in student drawings, it has been seen that majorly the friends of students, namely students, were illustrated as individuals. The person who is most frequently drawn is teacher after the students. These data overlap with the finding that the most frequently illustrated place in children drawing is "classroom". This is because the students identify literacy concept with the classroom and the people in the classroom are other students and the teacher. (See picture 2 and 3)



Picture 2. Students and teacher in classroom



Picture 3. Teacher in classroom

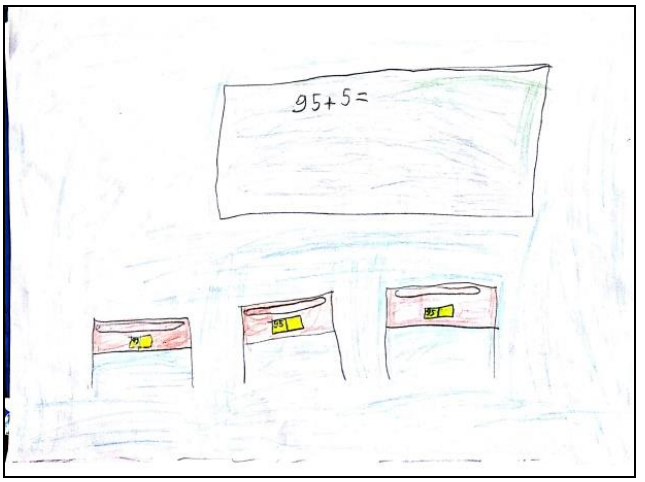
In the interviews, it has stood out that the students associate literate concept majorly with their friends and teachers.

Ceyda: *"My teacher and friends occur in my mind. The ones I draw are the teacher and my friends."*

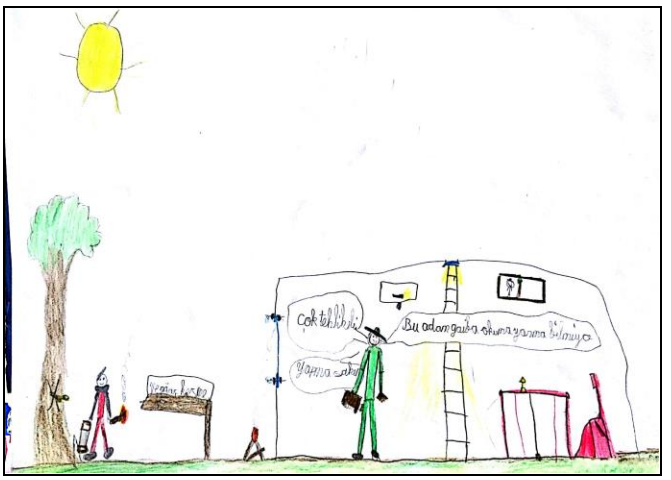
İrem: *"I drew my friends. We read in classroom with them, we do writing exercises with you and my friends."*

Finally, the emphasis (action-phenomenon) in student drawings was investigated. It has been determined that the emphasis which is most frequently preferred in student drawings is "appearance of the books on the table in classroom" (See picture 4). Additionally, it is seen

that some drawings including actions or activities such as "reading book in classroom, teacher writing on board, reading book outside, writing in classroom, reading on one's own, a man cutting trees and blamed for being illiterate" were drawn as well (See picture 5).



Picture 4. Books and pencils in classroom



Picture 5. A man blamed for cutting tree (Drawing instruction: The watcher seeing the man cutting a tree firstly says "So dangerous, do not do it!". Then he says "I think this man is illiterate". This is because it is written "Do not cut the tree" on the signboard next to the man trying to cut the tree.)

In the interviews with the students, it is seen that the students interpret the books on the table in their drawings as being ready for reading.

> Faruk: *"The students will come soon and they will read books, that's why I drew like this."*

It is seen that the students stated that they drew reading book in classroom as there is a general tendency in the drawings including reading activity in classroom;

> Enes: *"In that we read books mostly in classroom. That's why I drew reading book in classroom."*

Additionally, some significant findings independent from determined themes have been reached with reference to the drawings in the interviews done with the students. These findings are partially seen in the drawings but cannot be classified as a certain theme. It is seen that 12 participants express that literate people will be happier in their lives. It attracts attention that the expressions stated by most of the participants also reflected in their

drawings. For example: a part of students stating that literate people will be happier used book and heart figures together (See picture 6 and 7).

Picture 6. *Heart and book drawings*

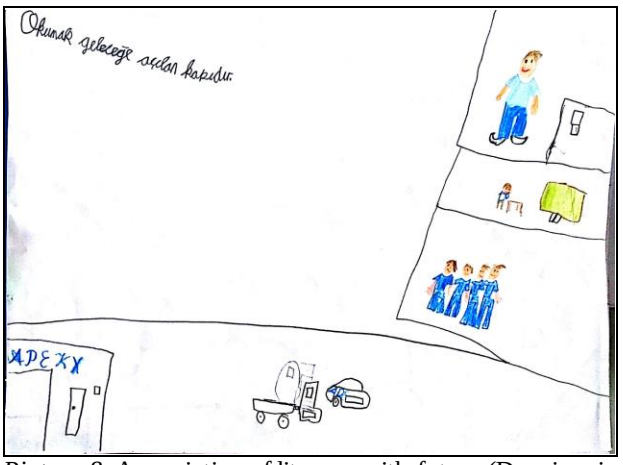
Picture 7. *Heart and book drawings*

One other theme determined in accordance with the student opinions is the way they describe literacy. 14 students described literacy as reading book and writing. This finding overlaps with the fact that literate people need to have both reading and writing skills. The opinions of students related to this matter are;

> Didem: *"Literate is someone able to read, namely reads book, and able to write."*
>
> Haşmet: *"Someone knowing both how to read and how to write. I mean a person who knows both."*

The last theme determined in accordance with the interviews done with the students is the subject why literacy is important. Under this theme, the students stated that literacy is used most frequently in daily life and important for academic achievement. It has been seen that some students told that literacy is important for determining the future status of a person. It is possible to encounter some findings supporting these expressions in student drawings (See picture 8).

> Burak: *"We can do nothing if we do not know how to read and write. We cannot do our works, studies. Hence it is important."*
>
> Ceyda: *"We cannot do our homework if we are illiterate, our teacher might get angry with us. Additionally, for instance, we cannot read and reply if a letter reaches us."*



Picture 8. Association of literacy with future (Drawing instruction: The student expresses here that being literate continues till university and finally makes person have a job. The note at upper side of the picture "reading is the door opened to the future" attracts attention.)

Some expressions stated by the students are towards that being literate makes daily life easier;

> Güliz: *"For example, we can do all our works on our own if we know to read and write. We do not ask from another person."*
>
> Faruk: *"I can do all my works myself. I can do my homework. If I go somewhere for example, I go to supermarket, I can read the prices. I would need to ask it from other people if I did not know."*

Literacy Perception in the Interviews

It has been seen that 227 expressions under 6 themes were stated by the students in the interviews which were done face to face for determining literacy perceptions of the students. These themes are; "who is a literate?", "characteristics of a literate", "literate perceptions", "importance of being literate", "where are literacy studies done?" and "reading-writing comparison". Each theme has been investigated by being separated into sub-themes. It has been observed that the least number of expressions were stated under "reading-writing comparison" theme; the largest numbers of expressions were stated under "characteristics of literate", "literate perceptions", where are literacy studies done?" themes.

The first theme created regarding the students' expressions is "Who is a literate?" theme. The students stated 35 expressions under this theme. According to these expressions, the students described a literate as a person who is able to "write" and "read". Differently from this point of view, the people who are "hardworking, eager to learn, respectful and graduate" were accepted as literate.

It is understood that the students majorly accept the people who are able to read and write as literate. For example:

> Murat: *"Being literate both writing and getting inspired by reading other people's texts."*
>
> Şeyma: *"Reader means reading a book for me and writer means writing something. In other words, then we can read our own writings.*
>
> Enes: *"Both reading and writing namely writing by getting information from what you read."*

Another theme determined with reference to student views is "Characteristics of a literate" theme. The students stated 44 expressions under this theme. According to student views the characteristics of literate individuals are writing effectively, being hardworking, reading a lot, being happy, having knowledge, seeing the family rarely, being skilful, having broad imagination, having high communication skills and being didactic.

Rasim: *"The characteristics of a good literate are writing well, considering punctuation, good lettering. Like a photograph for the people seeing his writing."*
Murat: *"Being able to write well composes effective words."*
Enes: *"Understands what he read, write something about it."*
Faruk: *"Shows respect to others' rights. Reads book a lot."*
Didem: *"They are hardworking and wise. They work hard."*

Additionally, it attracts attention that a student stated that a literate should use communication skills in a qualified way and that a student described literates as people who are not in contact with their families frequently. The mentioned expressions are;

Pelin: *"Delivers her emotions to respondent better. Communicates with people better. In my opinion both writes to them and reads.*

Şeyma: *"Literates are not in contact with their families frequently because they are busy with writing."*

Another theme determined with reference to student interviews is "literate perceptions". It has been identified that the students stated 44 expressions under this theme. The people who are literate according to student perceptions are their teachers, classmates, authors, themselves, parents and cartoonists. Investigating the findings obtained, it is seen that the students identified their teacher and student friends as literates. The fact that the students accept literacy activities as a business that should be done in classroom might have caused that type of thinking:

Kasım: *"Teacher and adults children. Our teacher taught us how to both read and write. Teachers are good literates."*

Burak: *"Everyone at school. That's why everyone at school learns to read and write. Hence all become literate."*

Ceyda: *"My teacher and myself. In that my teacher taught and I learned. I read and write by means of my teacher."*

Except for the mentioned statements, some students pointed out that they see authors, themselves and their parents as literates;

Işıl: *"The authors occur in my mind. They write so many books. Also they read. Unless we read, we cannot write good texts."*

Nadir: *"School mates, teacher, mother and father. My father always reads newspaper at home. My mother reads book before going to bed. I read before going to bed as well."*

Another theme determined with reference to student views includes expressions about the importance of being literate. The student expressions about why literacy is important take part within this theme. The students stated 40 expressions about this subject. The expressions determined in accordance with the student opinions are as follow: academic achievement, supplying daily needs, capturing the agenda, being independent, enjoying and seeing warnings out of mentioned views.

It is seen that the students featured academic achievement and daily life needs when they justified the importance of being literate. The students stated 35 expressions under these two sub-themes. The views of the students on this subject are;

Orçun: *"Yes for example the teacher gives a book you cannot read the teacher will evaluate wjen he evaluates there might be errors at you."*

Faruk: *"Yes. For example, when we go to university now we would like a profession we need to be hardworking."*

Güliz: *"I would not be able to read write I would not be able to write if my teacher told me to write I would not be able to read if he told me to read. I would fell behind my lessons."*

Orçun: *"I think it is important for example they told me to buy a medicine they told its name but you could not read you could not buy the medicine."*

Enes: *"My mother would want something I could not do as I could not read the text on it my mother wanted something from the supermarket I would not know what to buy."*

It has been determined that the students pointed out the importance of being literate for some reasons like capturing the agenda, being independent and seeing warnings out of mentioned views.

Ajda: *"Additionally when I write I can read also faster when the televisions pass faster."*

Enes: *"I would be sad. I would have to ask everything to my mother."*

Burak: *"Many things happen to you. Bad things may happen less for example walking in the jungle there is something like a marsh it is written do not step marsh. But he does not understand as he cannot read."*

In the interviews with the students, it stands out that some certain places where literacy studies can be done came into prominence. It has been seen that the students state 44 expressions about where literacy studies can be done. 31 of these expressions declare that literacy studies can be done at school and home. Apart from these, it was pointed out that libraries, silent places, cafes, markets and streets are suitable for performing literacy studies

According to student views, it is seen that the schools are leading places where the litearcy studies can be done. It can be said that the students might state an opinion in this direction as they learn to read and write at school and continue their education at school. Another place for performing literacy studies is home according to students. The fact that the students read books, do homework and study at home might have provided them with accepting the home as a place for doing literacy studies. The views of the students on this subject are;

Semih: *"At school I do not know any other. We learn at school because we study reading and writing and there."*

Ali: *"At school, at library. We sometimes read book at school library. We can read book in classroom and get writing education."*

Ceyda: *"At home. In that the home is silent and I can study well. Nobody disturbs me."*

Faruk: *"At home and school in my opinion. I do my homework at home and we learn lessons at school."*

The last theme determined according to student views on literacy is "reading-writing comparison". The opinions of students on which one of reading or writing studies is more important for them are involved in this theme. The students stated 20 expressions under this theme. It is seen that the students give equal importance on reading and writing when their views are considered. Additionally, there are some expressions indicating that either reading or writing is more important than the other one.

The students majorly expressed that both reading and writing have equal importance in literacy studies under the theme of reading-writing comparison. For example:

Orçun: *"I think both because you study better when you do both. If one is absent you cannot be successful."*

Enes: *"Both are important. It's because our teacher may ask us for either reading or writing something. Then we need to read and write as well. We should know both of them."*

Additionally, it has been determined that some students stated that one of the reading or writing studies is more important than the other one. Especially, a student's reason for accepting reading studies as more important is outstanding;

Murat: *"Writing because you wonder more about other books when you write you read more you are more inspired."*

Jale: *"Reading. It is because we get in trouble less. Very bad things do not happen if we do not write but they happen if we cannot read. For example, a bench is painted we could sit if we did not know to read. But there is a notable difference between them."*

When the pictures and interviews are evaluated together, some similarities and differences are emphasised. Similarly, it has been seen that the pictures drawn by the students draw more of the classroom environment in relation to literacy. In the interviews, the students stated that the literacy activities were carried out primarily in the schools. Similarly, students have more of their friends and their teacher pictured in the paintings related to literacy. In interviews, they also expressed their friends and teachers as literate people.

On the other hand, it is seen that when students examine the objects they draw in their pictures, they draw more pictures about the reading. Then it appeared to focus on writing. But there is a notable difference between them. However, interviews conducted with students in reading and writing was stated to have equally important.

Conclusion and Discussion

The first conclusion of the research is associated with literacy description. The students stated that both the people who are able to read the texts and the people who are able to write for the purpose of producing a text could be described as literate. Within this context, considering classical literacy description it can be accepted that the students made out a right conclusion. However, regarding today's conditions, literacy is described as the skill of reaching the texts in a wide variety of structures and sources, reading reached texts with proper strategies, interpreting, evaluating and delivering these (Carmen, 2000).

With reference to the findings obtained, it has been concluded that the students are not informed of recent literacy types such as media literacy, visual literacy, and digital literacy. The students did not state any expressions about the mentioned literacy types in either their drawings or the interviews. However, the technology advances so rapidly and the ways of accessing the knowledge diversify today and this provide individuals with facing multiple literacy types. Therefore, various studies should be done in different fields like media literacy, visual literacy, and digital literacy in order to provide the literate individuals with having consciousness and awareness (Alvermann, Moon, & Hagood, 1999). Using recent literacy types brought about by technological development is important because that means following the changing world, accessing the knowledge rapidly and diversifying reading sources (Aydemir, Öztürk, & Horzum, 2013; Burnett & Merchant, 2011).

According to the study results, the students stated that they associate literacy concept with both reading and writing studies. However, the findings obtained from the student drawings show that the students mainly associate the literacy concept with reading studies. In the interviews done on the drawings with the students, it is seen that the students used occlusive expressions for the situation of featuring reading. The fact that the students used more actions and objects about reading in their drawings might be interpreted as that more importance is attached to reading than writing. On the other hand, it can be accepted as an indicator of that the students have more trouble in writing studies as there are less actions and objects representing writing studies.

Barton and Hamilton (2012) stated that the problem that some fields are cared less because of the teaching program, the views of societies towards education and teaching or the conditions deriving from the teachers. It should be aimed to decrease these negations by using entertaining activities prepared by regarding the grade and related with the learning domains the students care less or not interested in when this type of problems are faced (Cressy, 2006). Pajares (2003), Kurudayıoğlu and Karadağ (2010) stated that the biggest obstacle in the improvement of students' writing skills is unwillingness of the students to do writing studies. At this point, it is seen wrong to hope students to reflect a study in which they do not participate willingly in their drawings. When it is considered from this point of view, motivating the students and endearing the writing studies are of capital importance in developing writing skill (Bağcı, 2007; Amabile, 1985). It is a well-known fact that being successful is relatively hard in writing studies done with negative attitudes like it is in all

other fields (Kellogg, 2008). Process based writing approach appears as a writing approach that is advised by a number of researchers in order that the students can willingly participate in writing studies and become individuals who are keen on writing (Bayat, 2014; Culham, 2010; Graves, 1983; Karatay, 2011; Spandel, 2005; Tompkins, 2007; Tompkins, 2008).

According to another conclusion obtained by the research is that the students regard literacy studies as the activities which are done only at school and in classroom (Hall, 2017). Most of the student drawings were designed in classroom. However, the students pointed out that literacy studies can be done out of classroom in the interviews as well. Independently from the drawings, it has been concluded that literacy studies can be done out of school in the interviews. As it can be understood from this aspect, the students do not see literacy studies as the activities that can be done only at school. However, the school and classroom are the leading places the students associate with literacy studies in their minds.

The figures of teacher and student were encountered to a large extent when the people illustrated in drawings were investigated. This finding supports that the students accept literacy studies as the activities that should be done within the school environment by a majority. The question *"Who occurs in your mind when you hear literate?"* was generally answered as "my teacher, my friends and myself" in the interviews with the students. It is understood that the students mainly imagine the activities performed with teachers/students in school and classroom in their minds when all these findings are interpreted as a whole. In a research by McKay and Kendrick (2001) trying to reveal the perceptions of students about reading and writing through drawing, it was stated that the school figure was encountered many times in student drawings. Some of these drawings were as children reading/writing in classroom or studying room while some illustrated the bookshelf in the classroom. At this point, the most outstanding part is that the students drew in broader themes in McKay and Kendrick's study. For instance, it was seen that a student illustrated her music teacher as reading the musical notes to her by playing a piano. Dyson (2001) also stated that the school has an important place in students' literacy perceptions. This result -supported by the literature- reveals the importance of school and teacher concepts in literacy activities from the viewpoint of students. Therefore, the teachers should be qualified enough to meet students' literacy needs by their knowledge and expertise (Fairbairn & Fox, 2009). Not only should basic reading-writing strategies be used in classrooms but also development of each student's qualified literate culture should be supported by an extensive program (Kearns, 2011). It is one of the most important steps need to be taken that the students gain their self-efficacies in literacy and the most critical responsibility belongs to the teacher in this matter (Margolis & McCabe, 2006). Primarily the teacher should set a mutual trust relation with the students, know them very well, and contribute to their development as a literate individual by implementing literacy activities they can enjoy in classroom environment. At this point, teacher's being a role model; promotiveness and accuracy of student motivation are considered as relatively significant components for the students in the process of being a qualified literate (Corkery, 2005).

Beside all of these facts, the association of the literacy studies with only school is not seen as a positive indicator. It is because literacy, quite important in all fields today, is not a skill that can be limited only within the borders of the schools. Literacy serves a function at all moments of the individual's academic, personal and social life. Hence, it can be said that the acceptance of the fact that the literacy activities are performed only at school and with teachers or students is not right. Many studies supporting that opinion exist in the literature. The performed studies reveal that the family factor and true guidance of the family is critically important in literacy development of the students (Ehri & Roberts, 2006; Saracho, 1997; Bindman, Skibbe, Hindman, Aram, & Morrison, 2014). Mckay and Kendrick (2001) stated that the families play a significant role in students' literacy practices. In McKay and Kendrick's (2001) study, it is understood that the students write letters to some people in their drawings and these people are their mothers or fathers from the texts/dialogs on the drawings. Nevertheless, few students mentioned the indicators about family when they made their own descriptions of literacy in the study. When it is regarded from this aspect, the fact that literacy is not an action or a target done only in the classroom but an important

and necessary skill involving a whole life of the individual and used lifelong should be acquired.

One of the other conclusions obtained from the research is that the literacy perceptions of the students are passive. When the drawings are investigated, it is seen that the students drew pictures away from action (stable) in general manner. Much more action, object and creativity stand out in the drawings of the same students about another subject. This circumstance can be explained by the fact that the literacy experiences and practices of the students are limited. It is a well-known fact that the more the individuals practice a condition the more the mobility in their drawings increases (Anning & Ring, 2004). From this viewpoint, it has been concluded that the students have limited experience about literacy and they have a passive literate identity.

According to another conclusion of the research, the students pointed out that literate individuals are happier in their lives, read more and more hardworking people. Additionally, the students reflected that literate people are more successful in their academic life. The studies performed reveal that the people with higher literacy skills are more successful individuals in their all academic experiences particularly in language education (Shatil, Share, & Levin, 2000; Aram, 2005; Bloodgood, 1999; Blair & Savage, 2006). From this point of view, literacy is achieved as a result of the fact that the students are very important both for academic life and daily life.

According to the results of the research, some suggestions were presented to researchers, teachers and parents. For researchers; it is recommended that students be able to identify the factors affecting their perceptions of literacy and to devote them to research on how to be better literate. Teachers; it is necessary to understand that literacy is not limited to school and to exemplify literacy as a part of their lives. Finally, even if education and instruction is carried out in schools as a form of organization, the vast majority of student time is spent at home. So it is very important to see literate parents in children's homes. At this point, it is expected that parents will raise themselves as literate people and become an example to their children.

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Journal of Education and Future
year: 2018, issue: 14, 107-117

Investigation of the Relationship between E-Learning and Cooperative Learning Attitudes of High School Students

Namudar İzzet Kurbanoğlu* **Serhat Arslan****

Abstract

Individuals comprising the communities of today need to be have more knowledge, skills and talents in comparison with the past to keep up with the new age and maintain their lives. It is only possible to make the individuals get these information, skills and talents with the application of the methods related to the new teaching and learning processes. Pedagogical and technological improvements arousing in the late years both affect the human life deeply and most importantly learning and teaching fields. In addition, technology is considered to be very important in terms of educational processes that help individuals to solve problems encountered in life, pioneer scientific innovations and facilitate life in one part, as well as in school climate. The aim of this research is to investigate the relationships between e-learning and cooperative learning attitudes of the high school students. Attitude scales of e-learning and cooperative learning were utilized asa data collection tools in the research. The sample of the investigation comprises of 415 high school students from three schools in the province of Sakarya whom are 215 female and 200 male.The problem of the investigation was analysed by the use of "Pearson Moment Correlation" and "Structural Equation Model".Results show that there is a positive and significant relationship between the scores of students' e-learning attitude and the scores of students' cooperative learning attitude. Moreover, the findings gathered from Structural Equation Model demonstrate that coopeartive learning predicts positively the sub-dimensions of e-learning. These results were discussed in frame of the related literature.

Keywords: E-learning, cooperative learning, structural equation model

* Assoc. Prof. Dr., Sakarya University, Faculty of Education, Department of Science Education, Sakarya, Turkey. E-mail: kurbanoglu@sakarya.edu.tr

** Assist. Prof. Dr., Sakarya University, Faculty of Education, Department of Education Science, Sakarya, Turkey. E-mail: serhatarslan@sakarya.edu.tr

Lise Öğrencilerinin E-öğrenme Tutumları ile İşbirlikçi Öğrenme Tutumları arasındaki İlişkinin Belirlenmesi

Öz

Günümüz topluluklarını oluşturan bireylerin, yeniçağa ayak uydurmak ve hayatlarını sürdürmek için geçmişle kıyaslandığında daha fazla bilgi, beceri ve yetenek sahibi olmaları gerekmektedir. Öğretim ve öğrenme süreçleri ile ilgili yeni yöntemlerin uygulanması ile bireylerin çağa uygun olarak bilgi, beceri ve yetenekleri elde etmelerini sağlamak mümkündür. Teknolojik alanda yaşanan baş döndürücü gelişmeler, hem insan yaşamını derinden etkilemekte hem de öğrenme ve öğretme süreçlerine farklı bir bakış açısı kazandırmaktadır. Ayrıca teknoloji, bireylerin yaşamda karşılaştığı problemlerin çözümüne yardımcı, bilimsel yeniliklere öncü ve yaşamı bir parça da olsa kolaylaştırmasının yanında okul ikliminde eğitimsel süreçler açısından da oldukça önemli olduğu kabul edilmektedir. Bu araştırmada; lise öğrencilerinin kendi kendine öğrenme sürecinde, e-öğrenmeye karşı tutumları ile işbirlikçi öğrenmeye karşı tutumları arasında anlamlı bir ilişkinin olup olmadığının belirlenmesi amaçlanmıştır. Araştırmada; veri toplama aracı olarak e-öğrenmeye yönelik tutum ölçeği ile işbirlikçi öğrenme ölçeği kullanılmıştır. Çalışmanın örneklemini, Sakarya ilinde üç farklı lisede öğrenim gören 215 kız, 200 erkek olmak üzere toplam 415 lise öğrencisi oluşturmaktadır. Araştırmanın problemi,"Pearson Moment Korelasyon" ve "Yapısal eşitlik modeli" ile analiz edilmiştir. Sonuçlar; öğrencilerin e-öğrenme tutum puanları ile işbirlikçi öğrenme tutum puanları arasında pozitif ve anlamlı bir ilişkinin olduğunu göstermiştir. Ayrıca, yapısal eşitlik modelinden elde edilen bulgular işbirlikçi öğrenmenin, e-öğrenmeye karşı tutum alt boyutlarını pozitif yönde yordadığı görülmüştür. Elde edilen bu sonuçlar litaretür çerçevesinde tartışılmıştır.

Anahtar Sözcükler: e-öğrenme, işbirlikçi öğrenme, lise öğrencileri, yapısal eşitlik modeli

Introduction

Individuals comprising the communities of today need to be have more knowledge, skills and talents in comparison with the past to keep up with the new age and maintain their lives. It is only possible to make the individuals get these information, skills and talents with the application of the methods related to the new teaching and learning processes. Pedagogical and technological improvements arousing in tha late years both affect the human life deeply and most importantly learning and teaching fields (Kurbanoğlu, et al., 2010). The scientists who bring forward an idea about the definition and field of technology Goetsch, 1984; Middlehurst, 1999; Williams & Kingham, 2003) identify the technology as an application of the solution to the problems, scientific norms and innovations, and as a life facilitator. They asserted that technology is an area including all the community and financial activities and organisations predicting the actualization of technical information (as cited in Erdemir, Bakırcı & Eyduran, 2009).In this context, the educators who support the entegration of technology to the teaching and learning process, believe that this entegration will provide learning and prepare the students for the professions of the 21. century (Butzin, 2000; Hopson, Simms &Knezek, 2002; Reiser, 2001; Sam, Othman &Nordin, 2005).

Until the second half of this century, learning and teaching environment in all countries comprised of teacher, textbooks and blackboard. Beginning from the second half of this century, the scientific and technological improvements provided the individuals to develop their self learning skills and talents (Bedard, 1997; Francis & Flanigan, 2012). In the consideration of these developments, self learning has become an attractive field for the education of the individuals and in the theory (Hiemstra, 2004), and it has become an object of hundreds of articles, books and dissertations (Long, Redding &Eisenman, 1994). Researchers suggested many definitions about self learning concept and skills in the related investigations.

According to Knowles (1975) and Pilling-Cormick, Garrison (2007), self learning is an approach in which the students take over responsibility for the necessary learning sources and the proper strategies compatible with their aims (Francis & Flanigan, 2012). According to Russelland others (2007), self learning skills mean that the individuals take responsibility for their own learning skills, find the appropriate sources to the objectives and decide the methods for the evaluation of the learning (as cited in Aydede & Kesercioğlu, 2012).Knowles (1975) emphasized that self learning approach will be a survival skill, and Candy (1991) asserted that self learning will develop individuals' critical thinking, understanding and decision making skills (Francis & Flanigan, 2012).

Self learning or individual learning concepts have beenprimarilyinvolved as educational technology application to the educational literature with the terms like "programmed learning", "automatic learning" and "machine learning" since 1950s (Büyükkaragöz & Çivi 1999; Hızal, 1977). Programmed learning is identified as an individual and self learning method that student involves in learning actively, improves oneself sistematically and provides constant control of learning. In this method, self learning tools are programmed books, charts, cassette tapes, films, teaching machines and so on (Büyükkaragöz&Çivi, 1999). Popularity of personal computers, softwares, multimedia and computer networks encompassed the improvement and application of innovative teaching strategies and diversity of self learning tools with the development of computer technology.

Nowadays, methods like CD ROM application, web-based learning and mobile learning are benefited from computer technology in the self learning and teaching processes. Web based learning one of the computer assisted instructions is utilized not only in higher education but also at the high schools, middle schools and nursery-schools all over the world (Ghani, Hamim & Ishak, 2007).Web based learning has developed significantly, constructed new learning environments and modified the teaching - learning styles since the improvements of world wide web. Web based learning mediates a student in anywhere to get information from a teacher somewhere else (Anderson, 2005; Lertlum & Papasratorn, 2004; Angelini, et al., 2005). Therefore, web based learning facilitates students to access the information content without feeling a need any physical tools (Ghani, Hamim &Ishak, 2007; Lertlum &Papasratorn, 2004). Moreover, web based learning provides students to understand better by directing their attention to interesting and enjoyable subjects. Thereby, when a

student is asked to remember any information, the student can identify, explain and emphasize all the terms in the lesson (as cited in Kurbanoğlu, et al., 2010).

Recently, methods like CD-ROM application, web based learning and mobile learning has been identified as e-learning (Lertlum & Papasratorn, 2006; Ghani, Hamim & Ishak, 2007). E-learning can be supposed as an education system which can access to the all farther individuals with a web based wide communication nets (Halis, 2001; Aşkar, 2003). Generally, e-learning is accepted as utilization of internet and computer based technologies to facilitate education and teaching (Ruiz, et al.,2006). However, thedefinition and scope of e-learning has changed with the development of technology. Nichols (2003) asserted a definition about this notion as utilization of different technological tools such as web based, distributed via web or web compliant to realize the education objectives. Waller (2001) describes e-learningas a productive learning process which is a content constructed to support self learning and converted into a digital media. The definitions about the e-learning above were produced related to combining, applying and relations of learning and teaching activities via different electronic environments. According to these definitions; e-learning, internet and web technologies which provide information transfer to many people in different times were utilized as basic components. Hence, awareness of pedagogical and technological dimensions of e-learning is very important in terms of improvement and application of technology based lessons. E-learning technologies can be applied in formal or informal education styles such as distance learning and open education. Moreover, some original components of e-learning can be utilized in different levels of both middle and higher education (Tuparova, et al., 2006).

Application of e-learning as a technique in process of self learning is bound up with self learning level of the students and internal compatibility ofteaching methods with each other. Long (1989) collocated individual difference variables of learner characteristic by emphasizing the role of learner characteristics in the self learning process as background information, attitudes, values, motivations, cognitive and emotional attributes. He asserted that these characteristics are precious demonstrations of that if an individual will interact with the learning constructs or not (Kasworm, 1992). Brockett and Hiemstra (1991) and Grow (1991) pointed out that different learning levels of the students in the formal education systems prevent the harmony among the applicated teaching methods (Francis & Flanigan, 2012). In other words, it is emphasized that primary and middle schools systems managed by the educators prevent self learning tendency of the students (Eisenman, 1990; Kasworm, 1992; Piskurich, 1992). The lack of harmony between self learning and traditional learning methods was partially explained by experimential findings related to self learning and academical performance. In the researches, it was found that while self learning (Long, 1991; Pao-NanveWei-Fan, 2008) is in relationship with the academic achievement in some samples of traditional classrooms; it is not in relationship with academic achievement in some samples. (Candy, 1991). Furthermore, Shinkareva and Benson (2007) stated that there is a relationship between self learning levels of the students and utilization of technology in the lessons, but there is not any positive relationship between self learning levels and academic achievement in these lessons (Pao-Nan & Wei-Fan, 2008). Nevertheless, theorical discussions and experimental findings show that in terms of both applicated teaching tecniques and individual differences of self learning process should be taken into consideration (Brockett&Hiemstra, 1991; Long, 1990).

Therefore, the affect of e-learning improvement in self learning process and presentation of e-learning as an education system can be evaluated in terms of the students' attributes and the harmony of the applied teaching methods. Hence, a succesfull student should have the characteristics such as self motivation, patience, self discipline, competence in using computer software, time management, tecnical skills about communication and organization. These attributes directly effect the e-learning attitudes of the students towards cooperation. According to Reio and Davis (2005), the utilization of the teaching methods and techniques providing the students self learning promotes feedback about the learning materials and processes used by the students and learned from each other (as cited in Aydede & Kesercioğlu, 2009). In their investigation, EL-Deghaidy and Nouby (2008) found that there are positive and significant relationship between teachers' attitudes towards e-learning and cooperative learning. In view of researches above, knowledge and skills in self learning

of the high schools students are very important in terms of their cooperative e-learning attitudes. As a result of this literature review, there are several researches related to the attitudes of the students towards to e-learning (Ajadi, Salawu, & Adeoye, 2008; Bertea, 2009; Kar, Saha & Mondal, 2014; Lertlum &Papasratorn, 2004; Rhema & Miliszewska, 2010; Tuparova, et al., 2006). However, as there is not any investigation about students' cooperative e-learning in the process of self learning process, it is supposed that conducting an investigation about this subject will be a source further researches. In the view of this literaturein this survey, the aim of this research is to investigate if there is any positive and significant the relationships between e-learning and cooperative learning attitudes of the high school students. In accordance with this aim, the question "what kind of relationship is present between the attitudes of the students at high schools towards to e-learning and the attitudes of the students at high schools towards cooperative learning?" is searched for an answer.

Method

Research Model

Relational screening model one of the relational survey model was utilized in this survey. According to Karasar (2006), Relational screening model is a kind of model that aims to determine the presence and/or degree among two and more variances together. In the scope of scanning model, cooperative learning scale was applied together with e-learning attitude scale to the students.

Research Group

The universe of this survey comprises of the students who study at three different high schools in the central counties of the province of Sakarya. The sample of the study includes 415 students (215 female 51%, 200 male 49%) who study Physics, Chemistry, Biology and Maths in the randomly selected Science High School, Anatolian High School and Business High School. Sample three were 150 (36%) Science High School students (80 male, 70 female), 165(40%) Anatolian High School students (75 male, 90 female), 100 (24%) Business High School students (65 male, 35 female) who enrolled in study.

Data Collection Tools

E-LearningAttitudeScale: E-learning attitude scale comprises of24 items with 5 Likert and adapted to Turkish language byKurbanoğlu and his collegues (2010). E-learning attitude scale has two sub-dimensions. The first sub dimension generally measures "e-learning attitude" and the second sub dimension measures "e-learning about the science lessons". E-learning attitude sub dimension in the scale comprises of 12 (6 positive and 6 negative) items (example; when I use e-learning techniques, I get the all control; dealing with e-learning techniques worries me). E-Learning about the science lessons sub dimension comprises of 12 (6 positive and 6 negative) items (example; I want to learn science lessons via e-learning; I worry about the presentation of the science lessons in electronic media). Possible total score intervals from the scale varies between 24 and 120. Reliability factor of Turkish form of the scale was found as .85. Itemtotal correlation of the scale is between .35 and .87.

Cooperative Learning Scale: Cooperative Learning Scale was developed by EL-Deghaidy and Nouby (2008). Cooperative Learning Scale comprises of 20 items with 5 Likert (10 positive, 10 negative). Example, "Involvement in joint projects is very satisfying" is a positive item; "It is difficult to arrive at an agreed decision, in groups" is a negative item. Possible total score intervals from the scale varies between 20 and 100. Reliability and validity research of the scale was performed on the sample of the recent survey. Therefore, reliability factor of Turkish version of the scale was found as .73.

Analysis of Data

The participants of the survey were selected by the use of purposive sampling technique. Purposive sampling technique is one of the non-random sampling techniques and the researcher selects the most appropriate and accessible participants for himself. The students who were selected for the sample group filled the questionnare anonymously. Collected data were analysed with the use of correlation and structural equation modeling.

Findings

In this study, it is aimed to determine whether there is a significant relationship between e-learning attitude and cooperative learning attitude of the high school students who are in the process of high school period. Results of correlation analyses of the present research were given in Table 1.

Table 1. *The results of correlation analiyses between the variables*

Variables	E-learning	E-learning towards science lessons	Cooperative learning
E-learning	1		
E-learning towards science lessons	.57**	1	
Cooperative learning	.51**	.49**	1
Mean	33.8	34.7	61.1
Standard Dv.	5.6	5.9	9.5

*$p < .01$

According to results of correlation analiyses, it was found that there is a positive relationship between the students' e-learning attitude scores (r=.51) and cooperative learning scores, and there is a positive relationship between e-learning attitude scores towards to science lessons and cooperative learning scores (r=.49).

Structural Equation Modeling

The collected data were analysed by the use of structural equation modeling in order to determine whether students' e-learning attitudes predicts their cooperative learning attitudes. The result of the analyse was demonstrated in Figure 1.

The findings which are acquired from the structural equation modeling demonstrating the prediction of cooperative learning for e-learning shows that the model is well oriented ($\chi 2$=4862.18, sd=899, NNFI= .83, CFI=.84, IFI= .84, SRMR=.009, RMSEA=.103). According to these results, cooperative learning explains 26% of e-learning (R2=.26, F(1, 413)=150.237, p<.01), and cooperative learning explains 6% of e-learning about science lessons (R2=.6, F(2, 412)=98.56, p<.01). Cooperative learning predicts e-learning attitude sub dimension utmost. Consequently, cooperative learning explains 32% of e-learning and e-learning about science lessons.

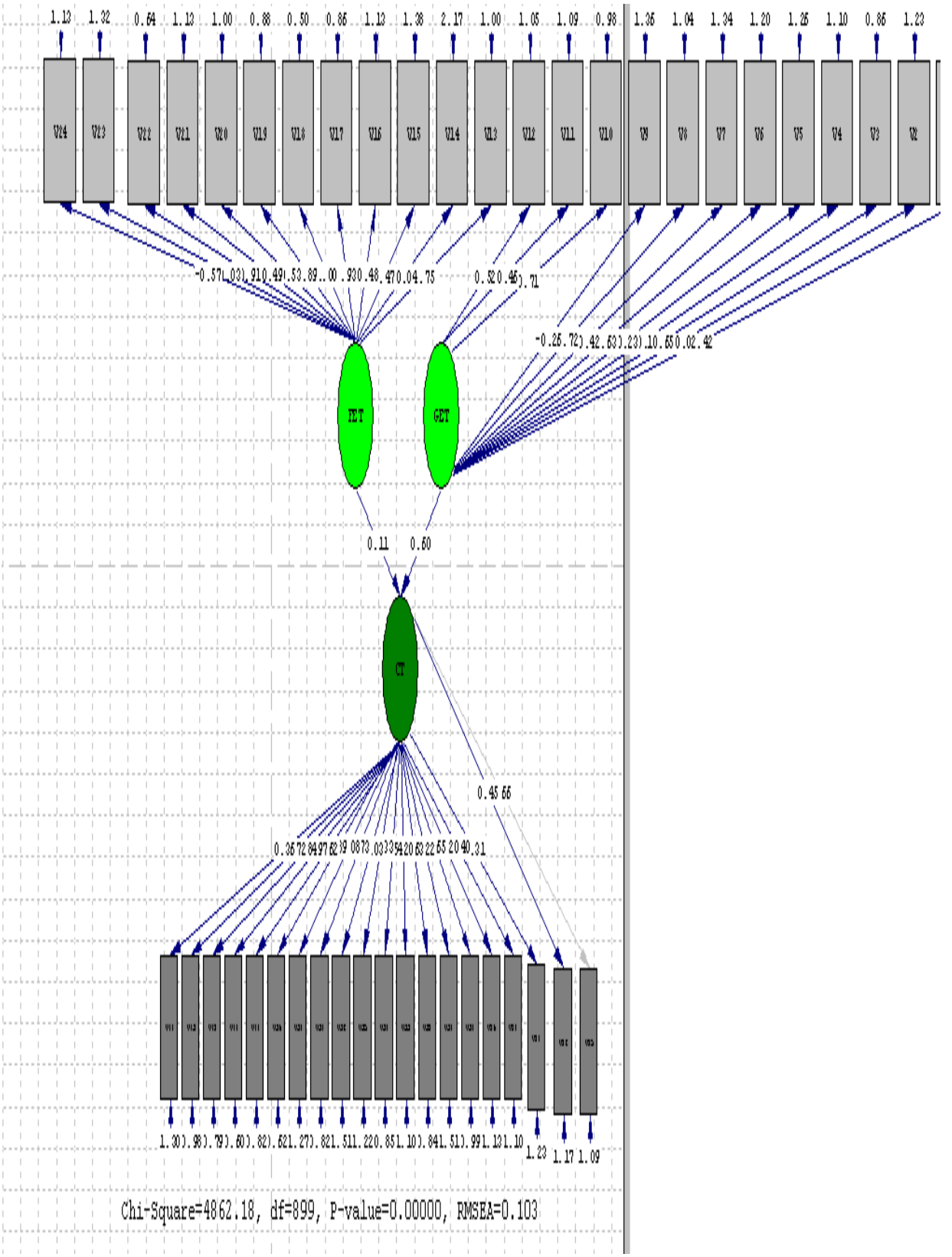

Figure 1. Path Analyse about the relationships between e-learning and cooperative learning ($p < .05$).

Discussion and Conclusions

In the present research, it is determined whether there is a significant relationship between e-learning attitude and cooperative learning attitude of the high school students. The analyse results of the collected data in the survey demonstrated that there is a positive and significant relationship between high school students' e-learning attitude scores and cooperative learning attitude scores ($p<.01$).This relationship is at the medium-level. When the high school students' e-learning attitude scores increase, cooperative learning scores increase. The reason of this increase in the e-learning attitude score is considered that cooperative learning effectsstudents' e-learning attitudes positively towards science lessons. The results of the surveys in this field show that there is a positive relationship between e-learning and cooperative learning.

EL-Deghaidy and Nouby (2008) found in their investigation to determine the relationship between teachers' e-learning attitude and cooperative learning attitude found that e-learning attitude scores of the teachers in the experiment group were higher than the scores of cooperative learning. It was found that the teachers' e-learning attitude scores in the experiment group were higher than the scores of control group teachers'. Furthermore, findings acquired from the structural equation modeling demonstrated that cooperative learning predicted the sub dimensions of e-learning positively. In the study of Freishtat and Sandlin (2010), they emphasized that the educational technologies which are taken into consideration as e-learning such as cooperative learning, peer learning were very important for the activities run by the students and they can improve the learning environments. Besides, effective learning environments help students and teachers to improve their knowledge and they are alsoso important in order to develop beneficial knowledge for the community. Positive cooperative e-learning results in a beneficial interaction for the individuals in the learning process.

E-learning in cooperation can be provided by determining common objects, distribution of tasks, work sharing and group identity (EL-Deghaidy & Nouby, 2008). In another investigation, Sutton (1991) found that cooperative student groups showed more positive attitudes than individual groups in the computer based lessons and e-learning processes. In the research, engineering and health science students demonstrated negative attitudes of e-learning process of cooperative learning (Keller &Cernerud, 2002). In a study of Mandl and Krause (2003), they found that as e-learning facilitated self regulated learning, e-learning is a good way of supporting the students individually even in negative learning conditions. Chang and Chen (2009) suggested cooperative learning methods and peer evaluation system as equalitarian and democratic methods in order to evaluate peer works in e-learning environments. In addition, Wahab (2008) argued that students make information permanent by modeling learning through collaborative learning using communication technologies. Students have realized that cooperative learning and e-learning are essential for success in school life. Also, the e-learning environment supported by collaborative learning can make a difference by providing students with appropriate educational environments in a way that increases the ease of use of communication technology. In another study, the assessments made in the research (Gönen, Kocakaya & İnan, 2006), it was determined that The use of new technologies should be encouraged in the implementation of the constructivist approach model. Learning environments should be supported by new technologies to provide students with a better learning quality. Similarly, Morgil et al. (2008) observed that students had unlimited repetition by using web technologies, increasing their interest in Visual features and learning. These results support the findings of the study.

Consequently, in the present research it was found that there is a positive and significant relationship between students' e-learning attitude scores and cooperative learning attitude scores, and cooperative learning predicts positively sub dimensions of e-learning. The participants of this research comprise of high school students and this situation prevents generalizing the results of the research to different age groups. This investigation can be applied on different age groups and larger samples. Moreover, as the present research's analyses are performed by the use of structural equation modeling, cause and effect relationship is not possible. It is considered that further experimental investigations would promote the findings of the present research. In addition, More studies can be done using

different variables and different samples to provide a better perspective on research questions. Future research can be applied in different cultures and samples to contribute to the generalization of the results of the research.

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Journal of Education and Future
year: 2018, issue: 14, 119-130

Instructional Practices that Motivate Students to Learn English*

Pınar Yüncü Kurt[*] [*] **Hüseyin Kurt**[**] [*]

Abstract

Motivation to learn English plays a curial role in students' performance, achievement and attendance. This indicates that instructors should be aware of the importance of motivation and strive to motivate their students. To be able to do that, instructors should have a novel knowledge of instructional practices that motivate students so that they can adjust their teaching methods and insert motivational tactics and strategies into their teaching procedures. Thus, the aim of this article is to find out the instructional practices that motivate students to learn English most. For that reason, ARCS motivational model (Keller, 2010) was applied throughout ten weeks in main course lessons of preparatory classes at Namık Kemal University during students' regular class hour. By means of this model several motivational tactics and strategies were inserted to the classroom instruction. Researchers prepared detailed lesson plans according to the weekly schedule and needs of the students and the students were asked to write weekly comments about them at the end of each week. Next week's lesson plan was prepared based on researchers' observation of the effectiveness of the lesson plan and students' comments collected previous week. Using a qualitative research design, comments from 30 students were collected in ten weeks and analyzed. As a result, we have reached the conclusion that students' comments can be evaluated under two headings. The first heading includes comments related to classroom instruction and the second one is related to instructor behavior and we tried to explain them in detail in this article.

Keywords: motivation, motivational model, arcs, weekly comments

[*] This study was presented at 1st International Congress on New Horizons in Education and Social Sciences (ICES-2018), held in Istanbul on April 9-11, 2018.

[**] Instructor, Namık Kemal University, School of Foreign Languages, Tekirdag, Turkey.
E-mail: pyuncu@nku.edu.tr, pinaryuncu@gmail.com.

[***] Instructor, Namık Kemal University, School of Foreign Languages, Tekirdag, Turkey.
E-mail: hkurt@nku.edu.tr, huseyinkurt04@gmail.com.

Öğrencileri İngilizce Öğrenmeye Motive Eden Öğretici Etkinlikler

Öz

İngilizce öğrenme motivasyonunun öğrencinin sınıf içi performansı, genel ve yılsonu başarısı ve ders devamlılığı üzerinde yadsınamaz bir rolü bulunmaktadır. Bu durum, öğretmenlerin motivasyonun öneminin farkında olmaları ve öğrencilerini motive etmek için çaba göstermeleri gerektiğini göstermektedir. Bunu yapabilmek için öncelikle hangi sınıf içi etkinliklerin öğrencileri motive ettiği hakkında güncel bilgiye sahip olmaları ve bu bilgiyi kullanarak kendi öğretme etkinliklerini adapte edip, motive edici taktik ve stratejilerle zenginleştirmeleri gerekmektedir. Bu yüzden, bu çalışmanın amacı, öğrencileri İngilizce öğrenmeye en çok hangi öğretici etkinliklerin motive ettiğini bulmaktır. Bu sebeple, Namık Kemal Üniversitesi İsteğe Bağlı Hazırlık Sınıfı Temel İngilizce dersinde on hafta boyunca ARCS Motivasyon Modeli (Keller, 2010) uygulanmıştır. Bu modelden faydalanılarak çeşitli motive edici taktik ve stratejiler sınıf etkinliklerine eklenmiştir. Araştırmacılar haftalık programı ve öğrenci ihtiyaçlarını göz önünde bulundurarak detaylı ders planları hazırlamış ve her hafta sonunda öğrencilerden ders programına entegre ettikleri taktik ve stratejiler hakkında yorum yapmaları istenmiştir. Bir sonraki haftanın planı araştırmacıların gözlemleri ve öğrenci yorumları dikkate alınarak hazırlanmıştır. Nicel araştırma yöntemi kullanılarak, 30 öğrencinin on hafta boyunca yapılan sınıf içi etkinliklere ve öğretmen tutum ve davranışlarına yönelik yaptıkları yorumlar toplanmış ve değerlendirilmiştir. Sonuç olarak, öğrenci yorumlarının iki başlık altında toplanabileceği sonucuna varılmıştır. İlk başlık sınıf içi etkinliklere yönelik yorumları kapsarken, ikincisi öğretmen davranışı üzerinde odaklanmıştır ve bu makalede bu başlıklar detaylı şekilde açıklanmıştır.

Anahtar Sözcükler: motivasyon, motivasyon modeli, ARCS, haftalık yorumlar

Introduction

2016 reports of OECD highlight that students encounter demotivation problems and they experience poor performance and a high rate of dropping out as a result. Many instructors throughout the world also complain that their students lack motivation as supported by OECD. These complaints indicate that instructors are aware of the importance of motivation in achievement and attendance. However, the attempts to motivate students seem to have proven ineffective (Jang, Conradi, McKenna & Jones, 2015). Thus, we need to find out what actually motivates our students. That is the question that aroused our interest and urged us to seek answers. As a result of extensive study and experience Keller (1983) put forward the ARCS Motivational Model as a solution to the problem to find more effective ways of understanding the major influences on the motivation to learn, and to provide systematic ways of identifying and solving problems with learning motivation. Keller's ARCS Motivational Model consists of four categories, Attention, Relevance, Confidence and Satisfaction. It covers most of the areas of research on human motivation and is a motivational design process that is compatible with typical instructional design models. Therefore, this study makes use of the model in English language classes at the preparatory school of a university to find out what motivates students to learn English in a Turkish context and, on the basis of the results, to suggest some techniques to increase motivation.

ARCS Motivational Model

To have motivated students, first instructors should have a necessary understanding of motivation which means they need an overview of the important components of the motivation to learn and need to have an understanding of the strategies that will help fulfill these components (Jacobson & Xu, 2002). For these reasons, practical motivational strategies are necessary so that instructors can design effective and motivating instruction (Keller, 1987a, 1987b). To be able to know what types of strategies to use, how many to use, and how to integrate them into the course, a motivational design plays a crucial role. Therefore, Keller (1983) developed the ARCS Motivational Model to guide instructors to blend the important elements of motivation so that they could design motivational instruction. To be able to apply ARCS motivational strategies effectively, a systematic motivational design process should be undertaken. The motivational design process has 10 steps.

Table 1. *Motivational design activities and process questions (Keller, 2010, p.59)*

Activities		Questions
DEFINE	1. Obtain course information	What are the relevant characteristics of the current situation including course description, rationale, setting and instructors?
	2. Obtain audience information	What are the relevant characteristics of the audience, including entry-level skills and attitudes towards job and training?
	3. Analyze audience motivation	What are the audience's motivational attitudes toward the course to be offered?
	4. Analyze existing materials and conditions.	What kinds of motivational tactics are in the current materials or other source materials and are they appropriate?
	5. List objectives and assessments	What do I want to accomplish with respect to the motivational dynamics of the audience and how will I know if I do?
DESIGN	6. List potential tactics	How many possible tactics are there that might help accomplish the motivational objectives?
	7. Select and /or design tactics	Which tactics seem to be most acceptable for this audience, instructor, and setting?
	8. Integrate with instruction	How do I combine the instructional and motivational components into an integrated design?
DEVELOPE	9. Select and develop materials	How do I locate or create motivational materials to achieve the objectives?
PILOT	10. Evaluate and revise	How can I detect the expected and unexpected motivational effects of the course?

ARCS Categories

Attention

Attention category seeks to answer the question "How can I make this learning experience stimulating and interesting?" and suggests that the instruction should capture the interest of students and stimulate their curiosity to learn and consequently help students focus their attention to learn (Fitzpatrick, McConnell & Sasse, 2006). The instructor can design instruction in a way that captures and maintains students' attention by using attention strategies such as a sudden or unexpected change in the environment, a loud whistle, a change in voice level, humor, and using different types of materials.

Relevance

Capturing students' attention is not enough for them to keep their initial motivation throughout the process of accomplishing a task. The relevance subscale answers the question "In what ways will this learning experience be valuable for my students?" and is related to how important students consider the subject matter being learned. In terms of expectancy theory, if students value and perceive the instruction as relevant to their personal or educational needs, they will choose to pursue the desired outcome (McConnell, Hoover & Sasse, 2001; Yap, 2008). Relevance can be achieved by linking course content to the students' past experiences and knowledge, current and future objectives, and their personal interests (Keller, 2010). Accordingly, instructors' role is to "build bridges between the subject matter and the learner's needs, wants, and desires" as Keller (2010, p.48) states. Moreover, relevance can be enhanced if a match between instructors' teaching and students' learning styles, and cultural values can be provided so as to stimulate personal involvement in the class. The instructor should use students' names, simulations, analogies, case studies, and examples related to the students' immediate and current interests and experiences in addition to providing choices.

Confidence

Confidence category is related to the students' perception of their ability to successfully learn or perform the required concept or task (Carpenter, 2011) and the focus question of this category is "How can I help the students succeed and allow them to control their success via instruction?". The instructors' role is to help the students believe or feel that they will succeed and control their success by means of enough challenge that requires a degree of effort to succeed, but not so much since it creates serious anxieties or threatens their confidence (Keller, 2010). To sustain student motivation, providing opportunities for success is crucial since the success experience will be meaningful and give students the feeling of control over the events that influence their learning as well as improving their efficacy expectation, and will stimulate continued motivation (Margueratt, 2007; Keller, 2010). Let the students know what is expected of them and provide examples of successful students to build confidence. It is important that students actually succeed at challenging tasks that are meaningful. Thus, the pacing should be adjusted as the students' competency levels change. The content should be organized in a clear, easy to follow sequence. Both verbal and nonverbal reinforcements will have an impact on the learner's self-confidence. Giving learners choices in sequencing and their working environment, allowing them to go at their own pace help them to improve confidence (Keller, 2010).

Satisfaction

The last step to motivate students to learn is to generate satisfaction by answering the question "What can I do to help the students feel good about their experience and desire to continue learning?" (Keller, 2010, p. 159). Satisfaction subscale suggests that instruction should be designed in a way that students gain positive feelings about their learning experiences (Carpenter, 2011). If students expect certain and valued outcomes from their behaviors, they will perform better and put more effort. Students should be able to associate their effort to learning goals. At the end of the course, satisfaction can be enhanced when students see how they are now able to perform significant and comprehensive activities that they did not have the skills for at the beginning of the course. Motivational strategies to

increase feelings of positive challenge or accomplishment in this category include verbal reinforcement, rewards, fairness, personal attention, feedback, and deliberate avoidance of negative influences (Keller & Suzuki, 2004).

Method

The purpose of the study is to find out the instructional practices that motivate students to learn English most. The research question is as follows: What instructional practices are considered to be motivating for the students?

The participants of the study were university students who were learning English as a foreign language in the preparatory school at Namık Kemal University, Tekirdağ/Turkey. The participants were chosen using convenience sampling. One of the researchers was the class instructor herself. The participants were exposed to 28 hours of English instruction per week and the instructor taught 10 hours of English lesson with each class which provided the instructor sufficient time to implement the ARCS motivational lesson plans and to observe the effectiveness of the motivational practices. The lesson plans which were prepared based on ARCS model principles and strategies were implemented in the participants' classroom at their regular scheduled class time.

A qualitative research design was adopted for the present study. Besides the classroom materials that were used to implement ARCS strategies, a weekly comment sheet (see Appendix) was used to gather data. At the last lesson of each week which means at the end of 10 hours of instruction, the participants were asked to comment on the lesson and lesson materials. The data were obtained through weekly comments written by the students to examine the effectiveness of the model in depth and to learn about the instructional practices that appealed to the students. Student comments were analyzed to find out their perceptions related to the effective instructional practices and instructor behavior.

The students commented on the activities that aroused interest most, whether the activities were relevant to their personal goals, whether they were satisfied with the activities, their feelings about the activities, the instructor behavior, and so on. The participants were free to write their comments in English or in Turkish. Due to the fact that the participants wouldn't feel comfortable when they write their comments with their names on the paper, their names weren't required. Instead, the participants were asked to use a nickname so that the researchers can comment on the participants' comments. Nevertheless, some of the students chose to use their own names. At the end of each week, these comments were collected and evaluated by the researchers.

When the students mentioned their deficiencies or problems through weekly comments sheet, the researchers wrote back positive and encouraging comments. The most important reason to ask for weekly comment is that the researchers needed immediate feedback from the students so that they would be able to modify and apply the most suitable strategies. Keller (2010) suggests that a great number of different types of measurement can be used ranging from body language to comments or interviews to get feedback from the students. Another researcher that emphasized using student comments was Visser (1990). Visser (1990) collected weekly, anonymous self-reports in which he asked the students to describe the three greatest motivational challenges and three most positive motivational influences they experienced during the previous week.

Furthermore, the researchers made use of a token system to motivate learners. According to Keller (2010), "a token economy is a system that incorporates the systematic use of reinforcements to manage behavior, encourage learning performance, or increase learner motivation" (p. 172). In these systems, target behaviors are specified clearly and tokens are awarded for those behaviors. When enough tokens are collected by the students they had the opportunity to exchange their tokens for a tangible reward such as edible items, school supplies, or a special privilege such as choosing that week's game. In this study, symbolic rewards were prepared in the form of cards with motivating pictures such as star, happy or funny faces as tokens. The winners in class activities or the students who performed a satisfactory contribution in class were given one token. The students were informed that when they collect three tokens they can exchange them with chocolate, when

they have five tokens they can exchange them with a graded English book. The students were given at least two chances of getting a token each week. Another motivational strategy that was used in the present study was the use of motivational messages. This concept was designed by Jan Visser (Visser & Keller, 1990) and it means writing a motivating message and delivering the message to the students who needs extra encouragement based on instructor observation (Keller, 2010). In the present study, at the end of the first week, a motivational text message was sent to every subject. During critical periods such as the first week, before the midterm exam, after the midterm exam, and towards the end of the semester, the researchers sent other text messages to keep the students alert and motivated. Moreover, student behaviors were constantly observed in class and motivational messages were written for individual students and were delivered to the students in class.

Table 2. *Personal message to a student*

You have got a message! I understand that you get bored and distracted sometimes. It may be because you are in a new class. But I'm sure if you try a little bit harder, you will enjoy more and won't feel bored. I know that you can pass the exam and be successful. Sincerely Pınar ☺

Results and Discussion

What instructional practices are considered to be motivating for the students?

The research question regarding the instructional practices considered to be motivating for the students was formed to find out the instructional practices that motivate the students most. The students' comments that were collected at the end of every week by means of weekly comments were evaluated by the researchers in terms of frequency to identify the instructional practices that motivate the students most. These comments can be evaluated under two categories as classroom instruction and instructor behavior.

Classroom Instruction

It is clear from the students' comments that classroom instruction significantly influences their level of motivation. Among all the effort that had been put through in class, the students commented that they perceived extra instructional activities such as games, songs and photocopiable materials including info-gap, problem solving, matching, puzzle, card games, picture description activities as the most motivating instructional practices. These kinds of materials are motivating since students are active participants of the lesson and can use their energy and creativity (Chen, 2009; Paras, Bizzocchi, 2005). This result isn't surprising, since course books can be monotonous, and instructors may need extra materials to support the book (Selcuk, 2011; Tomlinson, 2012; Tze-Ming, Chou, 2010). Following a course book extensively can become uninteresting because after a period of time it starts to be monotonous and students lose their attention to the lesson. Fredericks (2005) states that course books shouldn't be considered as the only teaching tool. New and interesting materials and visuals are needed to maintain students' attention as Acat and Demiral (2002) also suggested.

Many students commented that extra activities done through the use of photocopiable materials were useful and enjoyable since these activities helped them understand and remember important points easily especially when they were conducted in a competitive way. For instance, the pair competition activity in which the students matched cut-up sentences with their halves to practice conditionals in pairs was stated to be fun and useful, since this activity helped them to remember the grammar point better. Providing additional activities makes them more enthusiastic and energetic and brings variety to the instruction. Student 6 report his/her opinion on this issue as follows:

> *"We should make use of more auditory and visual materials in class since when we follow the book all the time I get bored (St.6)" (An example of students' comments)*

Some students commented that they had difficulty in improving their listening skills, so they demanded extra listening activities in class. Thus, they were provided extra listening texts, short video activities, and song activities which were perceived as motivating class activities. Among all listening exercises, songs were the most motivating ones. All the students were in favor of listening to songs in class. In addition, besides being motivating, songs also increase students' listening skills which is another motivating factor (Chen, 2009). Students prefer listening activities since they weren't given much opportunity to listen something in English in their earlier English education (Olgun, 2004). Therefore, in this study being given such a chance is considered to be important and motivating for the students as Student 15 states:

"We should do more listening activities especially song activities" (St.5 at the beginning of the study)
"I have a good time completing song activities (St.15)"

Playing games in class was perceived as highly motivating. When students play games, they enjoy themselves and "take on the responsibility of reaching specific goals without ever reflecting on the strategies used to reach these goals" (Paras &Bizzocchi, 2005, p.6). During games, students experience flow and they are completely involved in the activity (Paras &Bizzocchi, 2005). Flow is an important term since it (Csikszentmihalyi, 1975) refers to being completely absorbed in an activity to the point that you are not distracted by external stimulus, you are in a high level of intrinsic motivation which suggests that your attention is totally focused on your task, and you progress unconsciously from one thought or activity to the next. Among all kind of games, vocabulary games were mentioned by the students most. Based on the students' comments, it has been understood that students find vocabulary games both entertaining and beneficial since they have the chance to revise newly learned vocabulary. This is because some units cover a lot of new vocabulary for the students to learn. Students had difficulty in studying these words. Vocabulary games helped them overcome this obstacle while having fun. Student 10 and 11 mention their ideas on this matter as follows:

"I like vocabulary games best since I easily remember the words we use to play the game (St.10)"
"The vocabulary drawing game we played on board was really useful (St.11)"

Board activities and competitions are considered to be attention gatherers and adding fun and excitement to the lesson. Changing activities especially boring and mechanic ones with competitions was commented as useful. Student 28 states his/her opinion on the matter as follows:

"Creating words with the letters on board was the activity that I liked most this week (St.28)"

The winner student, pair or the group was praised and provided with tokens for their hard work and participation. Another thing that affected their motivation was this token system. Some of the students were very eager to participate in activities to get a token and were pleased when they exchanged their tokens with a bar of chocolate or a graded book. Offering them a graded English book was very encouraging. Eight of the students were able to collect 5 tokens and managed to get a book; and ten students received chocolate as an exchange for their tokens. The students were contented because they received an award for their efforts. Recognizing success when it occurs and rewarding in class performance help students stay focused on task (Truchlicha, McLaughlin & Swain, 1998). Students report their views on this issue as follows:

"Getting tokens makes me happy because I love chocolate (St.14)"
"When there is competing in an activity, we learn well (St.7)"
"I enjoy competitions a lot and they are really fun (St.23)"

The students reported that they were fond of group or pair work activities especially when they were asked to perform a creative task because they benefited from student to student conversation (Johnson, 2012). Pair and group activities were considered as highly motivating. Lin (2008) also found out that students perceive working with a partner as

exciting. By sharing their ideas, these activities helped them to use their creativity and maintain their motivation (Carpenter, 2012). In addition, pair or group work activities are less threatening for students and foster risk taking; students prefer taking risks when they work with a partner (Wajnryb, 1992; Zuniga, 2010). Students report their ideas on this subject as follows:

"I like group works. These kinds of activities increase my motivation (St.22)"
"I never get bored during the activities that I work with my partner, I like these kinds of activities (St.30)"
"Creating an invention with my group was the activity I liked best this week (St.22)"

In addition, some of the students suggested that vocabulary practices or any other practice that were supported with visuals were more meaningful and helpful for them. Using power point presentations for vocabulary teaching and grammar revision, hanging pictures and creating example dialogues on board were effective motivators. Visual and verbal components of instruction complement each other and promote better learning since in this way complicated things are made easy to understand (Wall, Higgins & Smith, 2005). Student 4 and 28 report their opinions on the matter as follows:

"The 'used to' activity that we talked about pictures of famous people was beneficial (St.4)"
"Using pictures to ask questions to each other was good (St.28)"

Furthermore, students find speaking exercises highly beneficial and motivating. Many students commented that more speaking activities should be integrated into the lesson. This may result from the fact that students are aware of the importance of communicating in English for their personal development and for better job opportunities (Dincer, 2011; Sun, 2008). In addition, instructor's encouragement to speak English may affect students' willingness to communicate in English (Sun, 2008). Some of the students make comments on the issue as follows:

"We can do more speaking activities (St.1)"
"I like speaking activities because I feel that I can speak English and I feel happy (St.24)"
"I absolutely loved speaking activities; we talked English a lot this week (St.9)"

Therefore, students were asked to make short presentations about a topic they like to improve their speaking skills. Even though this activity wasn't included in the syllabus and was optional, all students participated, and they commented that it was motivating because they had the chance to talk about something of their choice. In addition, making a short presentation was regarded as motivating because students were allowed to choose their topic to present in class. In Carpenter's study (2011), students stated that making the assignments on their own and putting their own voice in them were motivating. Students 10 and 14 make comments over the issue as follows:

"My friends made a presentation about Sıla, this was my favorite this week. I think we had a good time (St.10)"

"The idea of making presentations is really good, the presentation about Carlos Martin was good (St.14)"

Instructor Behavior

Second category that emerged as a result of the students' comments was the instructor behavior. Instructor behavior in different aspects was commented as highly motivating. The strongest motivating instructor behavior was that the instructor managed to get students' attention to the lesson and involve them to the lesson very successfully and could emphasize important points. Thus, effective teaching skills were perceived as motivating. According to Arnold and Brown (1999) and Malmström and Öquist (2016) instructors are highly motivating models for learners. Instructor's classroom management style and professional skills were proposed to be motivating by Dörnyei (2001) and Wlodkowski (1993). To apply ARCS Motivational Model, the instructor always made detailed preparation for the lesson and the students recognized it. Presenting materials clearly and focusing on major points

held students' attention in class and made the course materials relevant to students and build confidence in students. Students state their opinions on this matter as follows:

"The instructor emphasizes the important points and revises them (St.3)"
"Your teaching style and methods are successful; your lessons are beneficial learn a lot (St.9)"
"Our instructor's teaching style is perfect, she never bores us, and we really understand and learn (St.25)"

Another thing that motivated students was the instructor's personal characteristics. Instructor's personality has been considered to be a very effective motivator for the students in literature too (Arnold, Brown, 1999; Carpenter, 2011; Dörnyei, 2001b; Wlodkowski, 1993). It was stated that commitment, warmth, empathy and trustworthiness determine the relationship between the students and the instructor (Dörnyei; 2001b). Moreover, according to Wlodkowski, (1993) instructor characteristics that motivate students most are expertise in the subject area, supporting learner autonomy, showing empathy, demonstrating enthusiasm, and providing instructional clarity. The results of this study support the above claims since the instructor was perceived to be enthusiastic and expert in the subject area. Besides, many students evaluated the instructor as kind, caring, creative, cheerful, polite, fun, energetic, concerned, and eager to help. Furthermore, instructors should avoid stimulating negative emotions in students and try to promote positive feelings (Keller, 1987, 2010) since negative instructor behavior is one of the demotivators in class. Strict and dominant instructor behavior can cause especially students who aren't motivated enough to feel worse (Selcuk, 2011). Consequently, the fact that the instructor had positive and close relationships with the students was perceived as highly motivating. Positive behaviors of the instructor made the students willing to participate and the instructor was commented to have a close and trustworthy relationship with the students. Many of the students made statements such as:

"We have a kind and creative instructor; she supports us even when we make mistakes (St.3)"
"I benefited from your lessons; you give us energy (Sts.6 & 8)"
"We have an interested instructor; she is more eager than us (St.25)"

What's more, they said that the instructor paid attention to individual students and their comments and prepared instruction accordingly. As Malmström and Öquist (2016)'s study suggests, supportive and participating teacher behavior is motivating. To illustrate, when students demanded extra speaking activities the instructor added extra activities to that week's instruction. This was appreciated by the students, since they felt that they were important to their instructor. In addition, the students wrote their comments every week and the instructor acted upon their comments and the students were aware of the fact that they were active participants of the process. These comments enabled them to participate in the decision-making process which according to Arnold and Brown (1999) opens up greater possibilities for students and help them develop their whole potential because students want to feel included and be a part of decision-making process (Arnold & Brown, 1999; Dörnyei, 2001b). Providing opportunities that promote student reflection also motivates students (Means, Toyama, Murphy, Bakia, & Jones, 2009). Some of the students state their ideas on this issue as follows:

"It is very important for us that you can take a close interest in every student (St.3)"
"This week we got feedback about what we wrote and once more we understood that we are important to you (Sts.10 & 11)"

Additionally, providing positive and corrective feedback, and giving praise when students accomplish a difficult task were perceived as motivating in this study because feedback creates energy that students make use of beneficially in class when given appropriately (Carpenter, 2011, Johnson, 2012). In this study, the students reported that they were encouraged and praised in terms of their in-class performance and received positive and constructive feedback. This shows the effectiveness of feedback and reward system on classroom motivation (Dörnyei 2001). Student 14 reports his/her ideas on the subject as follows:

"What made me happy most this week was your comment on my written assignment (St. 14)"

Sending text messages had also motivating effect on students. The message that was sent after first week made them feel positive about their new class and the instructor. The messages that were sent before the midterms were encouraging. Frequent student-instructor communication is another factor that motivates students (Carpenter, 2011).

Teacher's verbal and non-verbal immediacy behaviors that reduce the distance between students and instructor may impact levels of learning by modifying classroom motivation (Dörnyei, 2001b, p.36). In this study, the students were able to contact their instructor via e-mail and text messages when they asked for guidance and help. The instructor also sent some motivational materials to motivate them at certain times such as first week, before the exam, etc. These motivational messages increased motivation since the students perceived their instructor as a caring instructor who is willing to communicate with the students as Robb also indicated in his study (2011). Messages and e-mails motivated the students since they indicate that instructor cared about them and their success and this gives the students a feeling of importance (Robb, 2010; Visser, Keller, 1990). The researchers sent messages as follows:

First message: "Congratulations! You have passed your exam and started a new level. Welcome to your new class. Thank you for your participation this week. I'm sure we will have a wonderful time and you will pass your exam again at the end of the term. If you ever need my help, please contact me."

Moreover, when the instructor realized that there were some distracted students in class, she wrote comments during class time and gave those little notes to those students without making them uncomfortable and without getting attention of the other students. This helped them to get involved in the lesson, after reading the note students tried to participate in the lesson more actively since they were acknowledged as individuals by the instructor. Also, being able to reach the instructor via mobile phone or e-mail helped them feel cared and secured. Dealing with individual students, paying attention to every individual in class (Huett, Kalinowski, Moller & Huett, 2008) and being at equal distance from each student is very important so that students perceive their instructor to be fair and trust him/her and being fair is an important instructor characteristic (Dörnyei, 2001, Keller, 2010). The students in this study emphasized that instructor could provide guidance to every student without being bored or angry. Some of the students emphasized this issue as follows:

"Thank you for your message instructor (St.12)"
"Your message made me happy (St.17)"
"Your messages and e-mails were really effective (St.25)"

Conclusion

The aim of this article was to determine the instructional practices that motivated students most. Students' comments support that applying ARCS strategies in instruction can motivate students in several aspects. Weekly comments of the students provided a rich amount of details regarding student perspectives. These show that techniques and strategies used to motivate the students had a great deal of impact on them. Vocabulary teaching activities supported with games, listening practices such as songs and videos, group activities and competitions, visual materials, speaking activities and instructor behavior were considered as highly motivating classroom events. The results of this study and the students' comments claim that instructor's personal characteristics and professional skills, student-instructor interaction and frequent communication, enthusiasm and clarity, feedback and praise, and fairness are crucial to motivate students.

The present study has contribution to the field in the sense that it provides feedback both for the teacher and the students. By getting feedback in short time intervals, instructors can make need assessment and respond the need of the students immediately not at the end of the term but during the education process. However, the number of the participants can be increased so that more data can be obtained to have a better insight regarding the

motivational instructional practices. In addition, some of the students can be interviewed to validate the data. The ARCS Motivational Model can be applied to students with different levels of proficiency to see if the model is effective in every level and to see if the perception of students from different levels change regarding the motivational value of instructional practices. Also, the area might benefit from further research focusing on different age groups. Future studies may also investigate the instructors' attitudes towards the effectiveness of the model, and instructors can reflect upon instructional practices they use in class in terms of their motivating effect.

The results show that students' motivation is affected by classroom instruction and teacher behavior. The students' comments shed light on their ideas related to the course instruction and class materials in this sense the research makes practical contribution to the field. It reminds the instructors of the role of the classroom instruction and teacher behavior in motivating their students and provides them with practical strategies to implement in their classes.

Effective instructors plan their lessons ahead based on the course objectives and students' needs, adjust their teaching methods and materials when necessary and treat students as individuals. Consequently, rather than blaming students for their unwillingness and demotivated behaviours, this process makes instructors aware of the real problems in their class with most suitable solutions. We think that applying ARCS model would help instructors overcome these problems.

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Journal of Education and Future
year: 2018, issue: 14, 131-148

The Case of Being a Teacher at Science and Art Centers: A Phenomenological Quantitative Research *

Mustafa Akdağ** **Cem Şenol*****

Abstract

The aim of the research is to examine "the case of being a teacher in Science and Art Centers". 13 teachers selected from Science and Art Centers in three different cities in the Eastern Anatolia region of Turkey in the 2015-2016 academic year constitute the study group of this research designed a phenomenological research design of Qualitative research approach. In the selection of the study group the criterion sampling method, one of purposive sampling method use in in phenomenological studies, was used. Semi-structured interview form was used to collect the data. The preliminary application of the interview form was carried out with three teachers working in Science and Art Centers. Interviews were made with teachers in the study group. Content analysis method was used in analysis of research data. In this study, it was concluded that teachers find the system in 2007 (old system) better in general in terms of the evaluation criteria and validity of the selection of teachers for Science and Art Centers, and they cannot adopt the system in 2015 (new system) because it contains subjective evaluation criteria. Teachers are adopting learning approaches based on learning by doing-experiencing, project-based learning, trip-observation, active learning and problembased learning while doing instructional activities. It has been seen that teachers are positive in terms of being teachers in Science and Art Centers, providing personal/professional development and occupational satisfaction, enhancing learning-teaching motivation, being prestigious and having a free learning-teaching environment. It has been seen that teachers are negative in terms of being teachers in Science and Art Centers because of long working hours and cannot complete enough additional tuition fees. It was also concluded that teachers communicate with students effectively, while their communication with parents is inadequate. In line with the research results, the following suggestions can be made: the selection of teachers to the Science and Art Centers should be done objectively, work should be done for strengthening the teachers the interaction and co-operation with parents.

Keywords: Science and Art Centers, teachers of gifted and talented, gifted education, phenomenology

* This study was partly presented at the 8th International Congress of Educational Research in Çanakkale, Turkey, 05–08 May, 2016.

** Assoc. Prof. Dr. Inonu University, Faculty of Education, Department of Educational Sciences, Malatya, Turkey. E-mail: mustafa.akdag@inonu.edu.tr

*** Correspondence Author: PhD. Student, Inonu University, Faculty of Education, Department of Educational Sciences, Malatya, Turkey. E-mail: cem-senol@hotmail.com.tr

Bilim ve Sanat Merkezlerinde Öğretmen Olma Olgusu: Nitel Bir Fenomenolojik Araştırma

Öz

Araştırmanın amacı "Bilim ve Sanat Merkezlerinde öğretmen olma" olgusunu incelemektir. Nitel araştırma yaklaşımlarından fenomenolojik desende tasarlanan araştırmanın çalışma grubunu 2015-2016 eğitim-öğretim yılında Türkiye'nin Doğu Anadolu Bölgesindeki üç farklı şehrinde bulunan Bilim ve Sanat Merkezlerinden seçilen 13 öğretmen oluşturmaktadır. Çalışma grubunun seçiminde, fenomenolojik araştırmalarda kullanılan amaçlı örnekleme yöntemlerinden biri olan ölçüt örnekleme yöntemi kullanılmıştır. Verileri toplamak amacıyla yarı yapılandırılmış görüşme formu kullanılmıştır. Görüşme formunun ön uygulaması Bilim ve Sanat Merkezlerinde görev yapan üç öğretmen ile gerçekleştirilmiştir. Görüşme formunda, ön uygulama sonuçları ve uzman kişilerin görüşleri doğrultusunda gerekli düzenlemeler yapılmıştır. Çalışma grubundaki öğretmenlerle derinlemesine mülakatlarda bulunulmuştur. Araştırma verileri, içerik analizi yöntemiyle analiz edilmiştir. Araştırmada öğretmenlerin Bilim ve Sanat Merkezlerine öğretmen seçimine ilişkin 2007'deki sistemi değerlendirme kriterleri ve geçerliliği itibariyle daha iyi buldukları, 2015'teki sistemi ise subjektif değerlendirme kriterleri içermesi nedeniyle benimseyemedikleri ortaya çıkmıştır. Öğretmenlerin, yaparak yaşayarak öğrenme, proje temelli öğrenme, gezi-gözlem, aktif öğrenme ve probleme dayalı öğrenme kapsamında öğretimsel faaliyetlerini gerçekleştirdikleri belirlenmiştir. Öğretmenlerin, Bilim ve Sanat Merkezlerinde öğretmen olmayı, kişisel/mesleki gelişime ve mesleki doyuma katkı sağlaması, öğrenme-öğretme motivasyonunu artırması, prestijli olması, özgür öğrenme-öğretme ortamının bulunması yönleriyle olumlu olarak nitelendirdikleri görülmüştür. Öğretmenler, mesainin uzun olmasını, ek derslerin tamamlanamamasını Bilim ve Sanat Merkezlerinde öğretmen olmanın olumsuz yönleri olarak nitelendirdikleri görülmüştür. Ayrıca öğretmenlerin öğrencilerle etkili iletişim içerisinde oldukları, velilerle kurulan iletişimlerinin ise yetersiz olduğu sonuçlarına ulaşılmıştır. Araştırma sonuçları doğrultusunda Bilim ve Sanat Merkezlerine öğretmen seçimi, objektif olarak yapılmalıdır, öğretmenlerin velilerle olan işbirliğini ve etkileşimini güçlendirecek çalışmalar yapılmalıdır gibi önerilerde bulunulmuştur.

Anahtar Sözcükler: Bilim ve sanat merkezi, üstün yeteneklilerin öğretmenleri, üstün yetenekliler eğitimi, fenomenoloji

Introduction

For a society, reaching the level of contemporary civilization by increasing the level of development requires its members using their brain power effectively, revealing their potential and directs it correctly. For this reason, by discovering the society's qualified labor force and using it with an effective education to increase the economic level is an important issue (Summak & Çelik-Şahin, 2014). Qualified labor force is closely related to improving the ability of gifted children's, constituting a small portion of the population in the country, and using their capacities at the highest level. Gifted individuals can be trained effectively, through the recognition of the individual's capabilities and improving it in a systematic and programmatic way (Gökdere, 2004). With the help of programs enriched with methods and techniques that allows gifted students and to be active with first-hand experiences, their educational requirements can be met (Hebert & Neumeister, 2000; Sak, 2011). Many countries have given importance to this issue and did studies on it earlier, and they have developed a variety of projects and models for the education of gifted individuals. Although the studies on gifted education in developed countries have reached a good point, its importance has just been recognized in Turkey (Ataman, 1998; Levent, 2011). While the activities related with developing ability for gifted children has a long history in some countries, in our country; the issues such as what are the educational needs of gifted children, what kind of arrangements should be made for them, and environments suitable for the other children might not be enough for these children, are neglected and being quite late for working on them. However, gifted students education undoubtedly is of great importance in terms of the present and future of our country. Based on the principle of equality in education, contributing to the education of gifted children, identifying, developing, directing their superior capabilities, and meet the needs of these individuals, will be for the benefit of humanity and our country (MNE, 2010a; MNE, 2013). In this regard, it is necessary to provide support for gifted students, poised to become the leaders and scientists of the future, with the centers equipped with better facilities. In fact, what these children need is a successful education system which will help them move forward, and guarantee their future (Summak & Çelik-Şahin, 2014). Considering the gifted individuals' roles in the future, undertaken an active role in this context, the Science and Art Centers (SACs) can be said to carry a great responsibility.

At SACs, the system is based on diagnosing the students' talent and creativity in the early stages, developing and assessing their cognitive, affective and psychomotor skills as a whole (Sıcak & Akkaş, 2013). Students studying at SACs receive project-based education in accordance with their interests and talents beside their formal education (MNE, 2010b). At SACs, as a teaching model, instead of teacher teach model, students learn in a project set by themselves during which related topic is learnt by applications of their own solutions (Davaslıgil et al, 2004). At SACs a pre-programmed education is not available. Programs are applied under the guidance of leader teachers and are prepared in accordance with the principles of individual learning. The programs are designed to improve children's creativity, skills to find solutions to problems with different approaches and to provide solutions to potential problems. Through this program, it is aimed to make students acquire advanced knowledge, skills, attitudes and behaviors in any discipline by considering cross disciplinary relationships. In these centers, it is aimed to make students learn by doing during the planning, implementation and evaluation stages; to make them to produce, solve problems, think creatively, communicate with the environment, do scientific research and make inventions under the guidance of advisors (MNE, 2015, article 25). It should also be noted that to achieve these aims, the major responsibility is shared with the structural characteristics of SACs and teachers working in these centers. Accordingly, it is clear that adequate attention should be given to the selection of teachers working in these centers and their professional development in the process to achieve the desired level of education for gifted children. According to the Circular of the Teacher Selection for Science and Art Centers, while choosing teachers those requirements were demanded; having a good registration grades in last three years, to having 60 points from verbal part and having 65 points for quantitative part from the Academic Post Graduate Education Exam (ALES) (MNE Circular, 2007). Ministry of Education The General Directorate of Special Education Services has been published a report in January 2013 called "Gifted Individuals Strategy and

Implementation Plan 2013-2017" (MNE 2013). In this report, provide SACs a good corporate status, and equip them with specialist staff are mentioned to be basic objectives. It was also stated that many of SACs have some challenges one of which is finding the qualified staff and some proposals have been made for this problem in this report. The staffs having received postgraduate training and desiring to improve himself in-service training were proposed for working at SACs. It is stated that the teachers having these criterias should be directed to work at the SACs (MNE 2013). From this viewpoint, the selection of teachers for SACs has been redefined by the provision of guidelines issued by the Ministry in 2015 (MNE Guidelines, 2015). The "new" system (2015) is observed to have some differences compared to the "old" system in the selection of teachers for SACs (2007). In what extent this new system is effective to meet the needs of qualified teachers for SACs is the subject of curiosity.

Regarding the role of teachers in the education of gifted individuals, Gross (2005) stated that, the greatest gift to give to a gifted child is a teacher being aware of their abilities, working for their development with pleasure and pleases them rather than make them fear. So the first thing must be done is to determine what the teachers do in gifted education as practitioners of the program created for these children (Davis & Rimm, 2004).

The teachers' planning of learning-teaching process, their communication with the students and their parents are one of the key issues of gifted education. Thus, what the teachers do in the teaching-learning process for gifted education at SACs is drawing attention. However, the related literature is examined, it can be said that there is a lack of research on "being a teacher in the gifted education" in our country. Although there are several studies related with the educational problems of gifted students (Ataman, 1976; Ekinci, 2002; Gökdere, Ayvacı & Küçük, 2004; Koçal, Kanar, Ermiş & Pınar-Kanar, 2009; Tekbaş, 2004), concerning with the teachers' views on gifted students and their education (Kurnaz, Tüybek & Taşkesen, 2009; Yakmacı-Güzel, 2009), examining the instructional qualities of gifted students' teachers (Gökdere, 2004; Gökdere & Çepni, 2004; Gökdere, Küçük & Çepni, 2004; Kontaş, 2009; Kurt, 2006) and examining practices in the SACs (Aktepe & Aktepe, 2009; Özkan, 2009; Sezginsoy, 2007; Tantay, 2010; Yıldız, 2010), there is no study examining "Being a teacher in SACs" in various aspects. This study, examined the case of being a teacher at the SACs with various aspects, is thought to contribute positively to the assessment and development of the teaching-learning processes at SACs, and also the results of the study is thought to contribute to decision-makers and managers responsible for the development of these institutions, to be useful in teaching practices for teachers who work in these institutions, to give an opportunity to make self-evaluation to the teachers working or planning to work at these institutions.

Purpose of the Study

The aim of the research is to examine "the case of being a teacher in SACs"; the selection of the teachers who will work in these institutions, the qualifications of the teachers in these centers, the teachers' planning the teaching process and their interaction skills. For this purpose, it is intended to provide answers to the following questions:

- How is the selection of teachers process assessed at SACs?
- What are the positive and negative aspects of teaching in SACs?
- What kind of instructional activities are the teachers engage in SACs?
- How do the teachers interact (with the students, parents, and the other teachers in the center)?

Method

Research Model

The study was carried out with phenomenology design, one of the research designs in line with qualitative research methodology. Phenomenological study identifies the common meaning of a concept or a phenomenon experienced by few individuals (Creswell, 2013: 77). In such a study, researcher concerns with personal experience of the participants, and examines the perceptions of individuals or the meaning they attribute to the events (Baş &

Akturan, 2013: 84). In this study, the experienced phenomenon is "being a teacher in SACs, and the teachers are the ones experiencing it. In this study, unbiased phenomenology was used. In accordance with the purpose of study, this kind of phenomenology makes more emphasis on describing the experience of the participants than the researcher's comment (Moustakas, 1994).

Study Group

The phenomenological study aims to collect first-hand and subjective information. So, its sampling strategy is the purposeful sampling (Baş & Akturan, 2013: 90). In this regard, to determine the working group of the research, depending on the purposeful sampling strategy, criterion sampling was used, which is used in phenomenological research. The important thing in determining the research group with this sampling method are participants' having real experiences related with the phenomenon and their ability to express this experience clearly (Creswell, 2013). Thus, in accordance with the nature of the subject studied in this research, having five years or longer working experience at SACs and expressing the experience clearly, participating in the research voluntarily are identified as of the criteria to be sample a teacher.

In the phenomenological researches, interviewing with more subjects does not mean getting more information about the targeted phenomenon. Here, the number of individuals interviewed about targeted phenomenon may vary and also it should not be tried to have a higher number of individuals but it should be focused on the quality of the information obtained from subjects (Baş & Akturan, 2013: 90). In phenomenological researches, creation of a study group from 5 to 25 participants is considered appropriate. (Creswell, 2013: 81). Sandelowski (1995) suggested that in a phenomenological study conducted by experienced research group, the sample size should include a minimum of 6 individuals. By taking these criteria into consideration, 13 teachers working in SACs in three different provinces of Turkey's Eastern Anatolia Region have been selected to collect research data. Because of ethical concerns, the information about SACs where the teachers work has not been clearly stated. Research groups of the study are given in Table 1.

The study group is carefully selected through preliminary interviews among the teachers having those criteria. The information about the teachers' names and the SACs they work in the study group are kept secret by the researchers and are indicated with codes. While coding participants' interview sequences (like T1, T2...) are used.

Table 1. *Information about study group*

The interviewers Code	Gender	Branch	Duration of Employment at SACs
T1	Male	Geography	9 years
T2	Male	Physics	9 years
T3	Female	History	10 years
T4	Female	Biology	5 years
T5	Female	Visual Arts	5 years
T6	Male	History	7 years
T7	Female	Geography	6 years
T8	Male	Physics	6 years
T9	Male	Math	6 years
T10	Female	Science and Technology	5 years
T11	Male	Chemistry	6 years
T12	Male	Math	9 years
T13	Male	English	5 years

Data Collection Tool

In this study, the interview technique which is proposed to be used as a main data collection techniques in the phenomenological study (Creswell, 2013; Patton, 2014, Yıldırım & Şimşek, 2013) was used. In the semi-structured interview technique, interview questions are prepared in advance by researchers; but by providing partial flexibility during interview let the created the question to be organizable the discussable (Ekiz, 2015). In this research, semi-structured interview technique was used as it provides flexibility to the researchers.

Semi-structured interview form was developed as a data collection tool to be used in-depth interviews held with the teachers in the study group. A comprehensive instruction was prepared at the beginning of the interview form about the subject and purpose of the study. The pre-application of the interview form was conducted with three teachers working at SACs and the final version was given to the interview form in line with the opinions of the three experts in Educational Sciences. In the Interview Form, there are some questions to reveal the phenomenon of being a teacher at SACs such as "(i) How do you assess the selection of teachers to the SACs? (ii) What are your reasons for choosing to be a teacher at the SACs? (iii) What are the positive and negative aspects of being a teacher at the SACs? (iv) How do you plan the teaching-learning process? What do you do in this process? (v) What do you take into account while arranging the learning environments? (vi) Which assessment and evaluation methods do you use for students? Why? (vii) How is your interaction with the students, parents and other teachers in your centers?". The questions were asked in the order as in the interview form and the data were recorded on a voice recorder. Furthermore, during the interviews, sections emphasized by the teachers were noted. The interviews lasted approximately 40 minutes.

Validity and Reliability

In the qualitative research, validity means that researchers observe the case as exactly as it is and as neutral as possible (Yıldırım & Şimşek, 2013: 289). External validity is transferability of the obtained result to the similar groups or settings. Direct quotations are often used by researchers for this purpose (Yıldırım & Şimşek, 2013). In this regard, to provide the external validity of the study, research findings were defined with direct quotations and the data were reported in detail. Expert review and participants' confirmation are commonly used strategies to increase the internal validity of a study, (Yıldırım & Şimşek, 2013). Therefore, while the experts (a faculty member serving in the Faculty of Education and two instructors done two qualitative studies) observed and gave feedback on the whole research process, the participants analyzed the data and the results obtained from the research and gave feedback to ensure the internal validity of the study. In this way the researcher's subjective assumptions and the misunderstanding of the data were prevented.

The most important measures that the researchers can take for external credibility; is to provide detailed and clear information about both the basic phases of the research, and their own position and approach to the research process. By this way the researcher proves that the results obtained link to the data collected (Yıldırım & Şimşek, 2013). For this reason, the methodology and procedures are described in detail and attained judgment and interpretations are stated at the a clearly to ensure the external reliability of the research. One of the strategies used to provide internal reliability is to present the collected data directly with a descriptive approach. Namely, the researchers should provide the data obtained through interview to the reader without any comment and interpret them later (Yıldırım & Şimşek, 2013). In this regard, interviews recorded with the voice recorder dissolved, obtained data converted into the text and it was analyzed in this form to ensure the internal reliability.

In qualitative research, for the researcher to receive feedback about how accurate his analysis and his data, his making other independent researchers check their data is stated to be important in terms of helping to improve different kinds perspectives (Glesne, 2013; Yıldırım, 2010). For this reason, a faculty member working in the Faculty of Education and two lecturers made qualitative study were asked to check the findings obtained from the results of the analysis and their confirmation on coding were taken on this issue. At this stage, as re-encoding process is not done, the reconciliation percentage is not calculated but codes were checked completely and to make the final decision, researchers have mutual negotiations about codes considered incorrect. The results of the analysis were given directly without comment of the researchers.

Data Analysis

Data analysis was conducted by adopting the content analysis approach with QSR NVivo 8 qualitative data analysis software. The main objective of content analysis is to reach

the concepts and relationships capable of explaining the collected data. For this purpose, first of all it is necessary to conceptualize the collected data, then it should be organized logically according to emerged concepts and accordingly the theme that describes the data must be determined (Yıldırım and Şimşek, 2013: 259). In this research, coding method obtained from the data was used, codes and themes were determined by the inductive approach. In phenomenological studies, the researchers are recommended to begin with a detailed analysis and then to pass a wider category with this analysis (Bazeley & Jackson, 2015: 76). For this reason, to achieve the corresponding phenomenon, coding based content analysis was conducted with an inductive approach. Content analysis was completed after reading the data and by controlling the derived codes.

Findings

Research Findings Related to the Case of Being a Teacher at SACs

As a result of analysis of the data, it is observed that teachers' views on the phenomenon of 'being a teacher at SACs' were observed to be grouped under four themes.

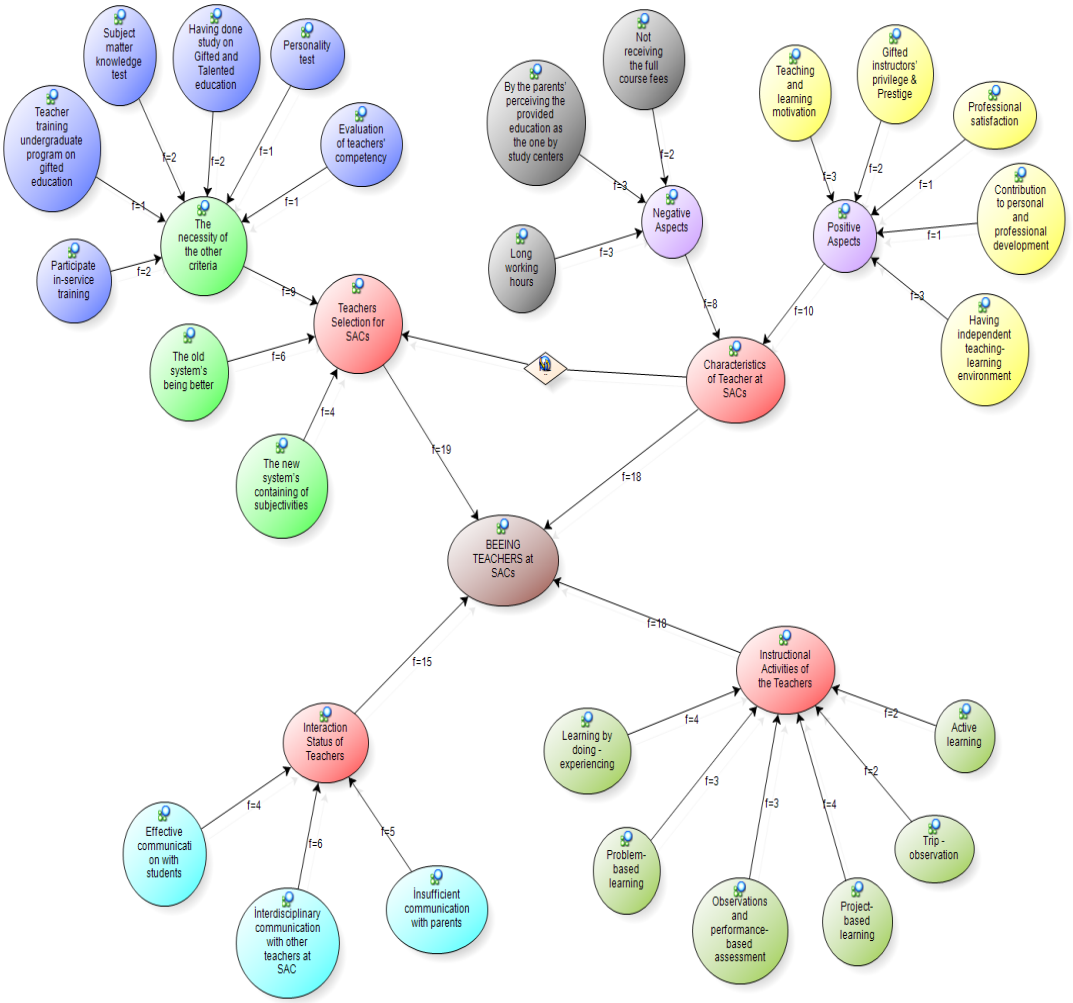

Figure 1. *The Model corresponding to the patterns of the themes*

As shown in Figure 1, themes consist of "teachers selection for SACs (f=19)", " characteristics of teachers at SACs (f=18)", "instructional activities of the teachers (f=18)" and "interactions status of the teachers (f=15)". In this model, one-way relationship was

founded from the "The characteristics of teachers at SACs" theme to "selection of teachers for SACs". This relationship is based on the idea of teachers' preferring to work at SACs depending on the positive or negative aspects of being a teacher at SACs and also SACs' choosing teachers among the ones who prefer to work at these centers. The emergence of the research finding that teachers preferred these centers mainly because of the positive aspects of being a teacher at SACs also confirmed this idea. Examples of teachers' statements are as follows:

> "*At first the SACs was a closed box for us. We did not have an example ahead of us. But in a report about the SAC, it was said that there is more free working environment and in particular there are superior and gifted students so after hearing a work environment where we will work with selected, high quality, interested students attracted us.*" (T1)

> "*Despite the concept of working hours is presumed to be very busy, we preferred it. As I thought that the gifted children's education is very important for our country, I preferred this place. So I thought to contribute to this situation. I care about this area.*" (T2)

By considering the model for the patterns of the themes, each themes were addressed separately and through their models following findings were obtained.

The Findings Related with Selection of Teacher for SACs

In the interviews, participants were asked to evaluate the selection of teachers to the SACs. After analyzing the data obtained from interviews, the theme of *selection of teachers for SACs* emerged by the evaluation of old (2007), the new (2015) and other systems. Figure 2 shows the model related with this theme.

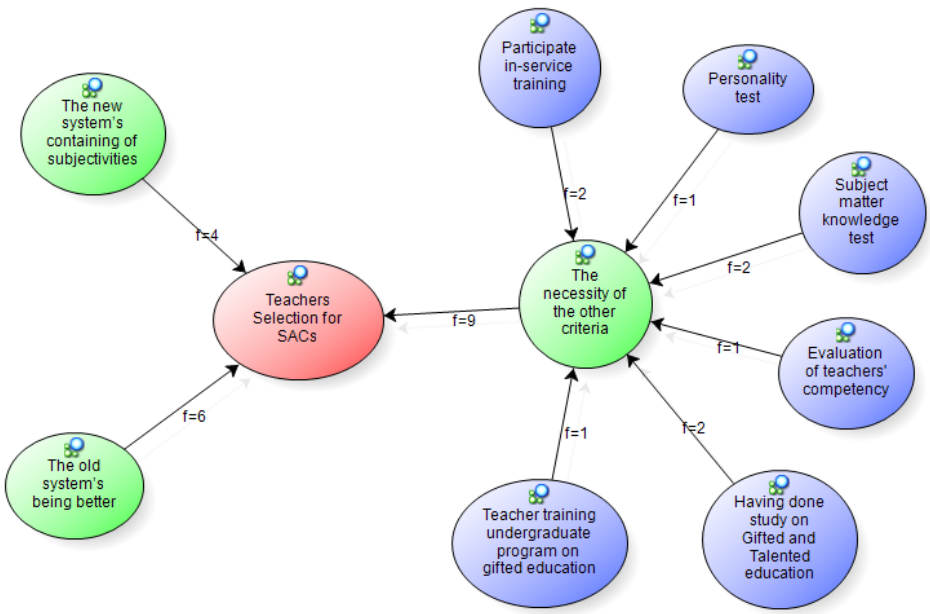

Figure 2. *The model corresponding to the selection of teacher for SACs*

As shown in the Figure 2, the theme of the selection of teachers for SACs (f=19) consist of "the new system's containing of subjectivities (f=4)" and "the old system's being better (f=6)" and "the necessity of the other criteria (f=9)" subthemes. According to the theme of the selection of teachers for SACs, teachers were determined to compare old (2007) and new

(2015) systems and to emphasize that there should also be other criteria. Sample sentences of the interviewed teachers to support these findings are listed below.

> "*In the past, first we had a written exam and then we received a month-long project evaluation seminar, and finally there was an interview at the end of seminar. And I think this system is very useful. At that time, having made at least a written exam is always beneficial in terms of determining the qualified teachers. Making the teachers having a master's degree and Ph.D. subject to a written exam will reveal the decisiveness of the process. I think the previous system was better. I do not think the assessment at the current system ensures the equality. In one place, while Teacher X is given more than one achievement certificate for his pre-assessment scores, unfortunately, that's not happening in another city or the awarding system such as giving commendation, certificate of appreciation, certificate of achievement is not applied objectively and fairly and of course those things effects the scores differently. Consequently, this situation brings inequality in the competition. I think that a written exam will always be beneficial for the institutions.*" (T1)

> "*I do not think either of these two systems are enough. I just find the preliminary criteria of the new system acceptable. I do not think following oral interviews are conducted quite adequately. If you are looking for teachers for gifted students at SACs, there should be no the incident called torpedo among people. Because these institutions need qualified teachers to develop students' skills.*" (T9)

In line with these statements, it is found that teachers think that the old system is better in its assessment criteria and the validity concerning with the selection of teachers for SACs, and they could not adopt the new system as it contains subjective evaluation criteria. In addition to criteria for selection of teachers for SACs in the old and new systems, teachers' statements regarding the requirement for further criteria are listed below.

> "*First of all, teachers must undergo a training, not just as a general education but it must concern about their own branch and especially training of gifted children. For example, how Gifted children are trained in Physics. After they have such a training, they may be subjected to an examination. Of course, this may not be the only criterion, but when the percentage is considered, the highest rate needs to be given this training.*" (T8).

> "*First of all, teachers should be very good at their own branches and this difference should be considered when selecting the teachers. Then, the teachers' knowledge of methodology and teaching skills must be very well and the selecting process must be handled in parallel with these two. Apart from these, I think that the departments should be established at universities which can provide training to gifted students. For example, the department of Teaching Mathematics, Chemistry, Geography, Biology to the gifted students. I think, if the teachers were trained like this way for these institutions, everything would be better*." (T13)

> "*Requirement of doing an academic work in the field of gifted education could be added to the preliminary evaluation criteria. For example, a Mathematics teacher is supposed to have an academic study on Mathematics education of gifted students*." (T12)

The teachers' statements about the selection of teachers for SACs, indicate that teachers are of the opinion that the requirement such as "evaluation of teachers' competency (f=1)", "participate in-service training (f=2)", "personality test (f=1)", "subject matter knowledge test (f=2)", "teacher training undergraduate program on gifted education (f=1)", and "Having done study/research on gifted and talented education (f=2)" should be added to the current system.

The Findings Related with the Positive / Negative Aspects of Being a Teacher at SACs

Depending on the theme of the characteristics of the teacher at SACs (f=18), teachers have described the being a teacher at SACs within the scope of the positive and negative aspects. Figure 3 shows the model related with this theme.

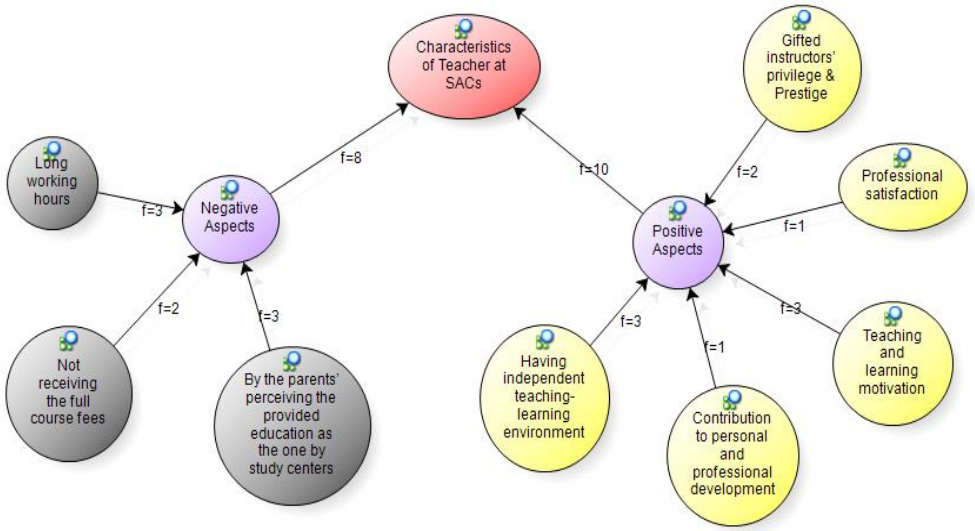

Figure 3. *The model corresponding to the characteristics of being a teacher at SACs*

The teachers' sample statements related the positive aspects (f=10) of being a teacher at SACs are as follows:

> "*There is an independent working environment at SACs. There is not a classical curriculum. Especially teachers do not have to prepare some restricting documents for the written-oral exams, performance tasks or other counselling and club files as in other schools. In this sense, I can say that it has more free working environment and it is more comfortable. In this regard, providing a higher level of training to these individuals while being open to professional innovations and improving ourselves and also witnessing students' reaching much better position bring us professional satisfaction.*" (T1)

> "*SACs use project-based training. In these centers, teachers and students to come together and at the end of the training process they produce a product within the project creating training. As I think that this way is more efficient, as a teacher it satisfies me more. I feel myself privileged in this institution. it is a prestigious institution. I work with gifted students. I think working with these students is a great pleasure and a great source of pride. Because gifted students may be a CEO, a president, a member working on a special task in the future. As I believe that my students will provide great service not only to my country, but also to the world my motivation is always high. That is why I believe that working at SAC is a prestigious job.*" (T13)

The teachers' statements about the positive aspects of being a teacher at SACs are as follows: education of the gifted students is being privileged / prestigious (f=2), having independent teaching-learning environment (mainly project-based) (f=3), contribution to personal and professional development (f=1), to teaching and learning motivation (f=3), and to the professional satisfaction (f=1).

The teachers' sample statements about negative aspects (f=8) of being a teacher at SACs are follows:

> "*We have a shift system that does not exist in other schools. We have to be at school at 8:00 in the morning and have to stay at school until 6:30 to 7:00 in the evening and this is really tiring. It also does not contribute anything to personal rights. the personal rights need to be improved. For example, although we work intensely nowadays, many of our friends cannot receive the full course fee, which is another additional problem. if there was a working system based on full year/full-time principle, teachers would*

provide all the contributions they could without thinking the concept of additional courses and working overtime, but now, unfortunately, we have such a problem." (T1)

"*Actually, there is a problem caused by parents at SACs. The parents expect us to provide courses for both YGS-LYS and TEOG exams, but there is no such course in these institutions. When we explain this to the parents, they do not want to send their children to our institution. The parents direct their students to the private teaching institutions or to take private lessons. This problem must be solved and this is something that can be done through the ministry. I believe that such problems can be resolved if the necessary sensitivity is shown to the SACs.*" (T5)

As it can be understood from the teachers' statements, the long working hours (f=3), not receiving the full course fees (f=2), parents' perceiving the training at this centers like the one in study centers (f=3) are thought to be negative aspects of being a teacher at SACs. However, analysis of results indicates that teachers refer less to the negative aspects of being a teacher at SACs than their positive ones.

The Findings Related to the Teachers' Instructional Activities

The teachers interviewed were asked to explain how they plan teaching-learning process and what they do in this process. The theme of teachers' instructional activities emerged with the analysis of the data. Figure 4 shows the model related with this theme.

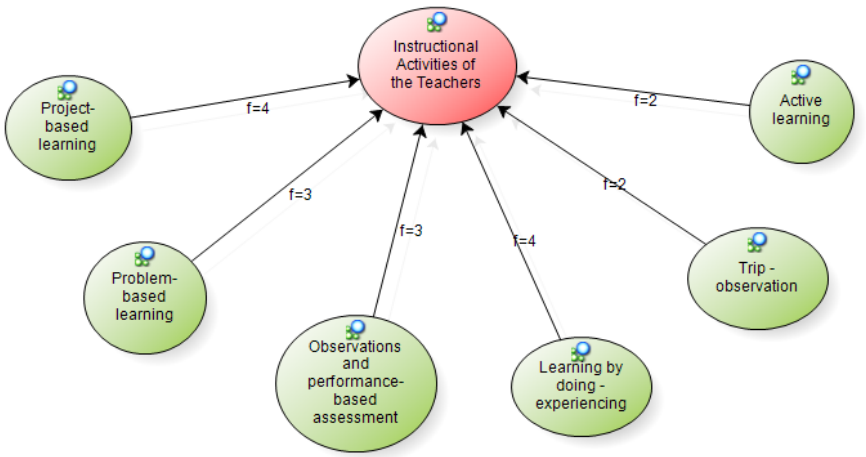

Figure 4. *The Model corresponding to the teachers' instructional activities*

As shown in figure 4, the teachers perform the instructional activities (f=18) such as learning by doing-experiencing (f=4), project based learning (f=4), trip-observation (f=2), active learning (f=2) and problem-based learning (f=3). This is also supported by the sample statements below.

"*I'm trying to follow the exact curriculum which the children have in their own schools. By ignoring the curriculum, we try to arrange more interesting and up to date activities appropriate to the learning by doing model. And especially during these activities, we are trying to make them create models based on their handicrafts and demonstrate new features of some existing materials related to that topic. While doing these activities, we are also trying to use audiovisual tools effectively. Consequently, I can say that by diversifying and differentiating activities, I try hard to make them attractive to the children.*" (T1)

"*We do not have an exact schedule. The teachers create their own plans. For each lesson special activities are organized. After planning these activities, I try to attract the attention of the students in the classroom. There are extracurricular activities organized by teachers. Even If I do not organize such activities, I adapted them to my classes. For*

example, bird observation was made two weeks ago. There are a lot of birds where I live. This activity was planned by our science teacher. During this activity I organize a game based learning activity to help the students learn the English corresponds of the names of the birds. During the bird watching activity, I asked them English corresponds of the names of the birds one by one. Of course, this was more permanent way of learning." (T13)

In addition to this, the statements about how they do measurement and evaluation are emphasized under the subthemes of observation and performance based assessment (f=3). This is also supported by the sample statements below.

"*We do lesson evaluations at the end of the classes and especially there are evaluations of performance and monitoring. And we share them with the parents*." (T5)

"*Obviously, we're doing assessment and evaluation orally in the form of giving feedback to the students. There is no oral-written exam, multiple choice test or a report card in this centers. Here, we're trying not to intimidate the kids with techniques like grading. We try to make hay while the sun shines*." (T6)

"*We observe more, we care the performance or we let them to fill in the blank in the concept maps and in this regard we do the assessment.*" (T7)

The statements of teachers revealed that there is no a grading system in assessment and evaluation process and the assessments are generally done based on observation and performance.

The Findings Related to the Teachers' Interaction Situations

During the interviews, the participants were asked to explain how they communicate with other stakeholders at the centers. As a result of the analysis the theme of teachers' interaction situations emerged. The model concerning this theme is shown in Figure 5.

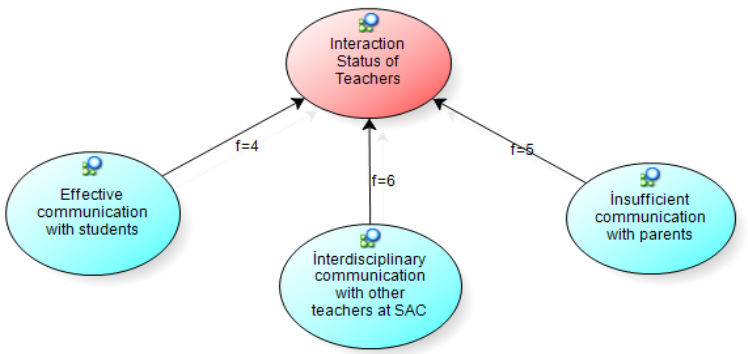

Figure 5. *The model corresponding to the teachers' interaction situations*

Teachers are reported to have interaction with students, with other teachers at SACs and parents under the theme of interaction status of teachers (f=15).

Some sample statements of teachers' views on the state of their interaction with students (f=4) are given below.

"*I think that teachers' relationship with their students is quite well. That is to say, as the number of groups are few, students are aware of being cared and their differences are valued. Here they feel more valued.*" (T10)

> "*I think that the teachers' communication with their students is good, and also the success of these centers result from the positive communication established by teachers and students.*" (T2)

In line with the statements of the teachers, it can be inferred that in general teachers have an effective communication with their students. Some sample statements of teachers' views on the state of their interaction with the other teachers (f=6) at SACs are given below.

> "*Our relationship with our colleagues is really good. Especially just because of our field (Mathematics) we cooperate with Physics department. For example, Physics department says us that they will cover the following topics in their lesson, but before starting they need some mathematical information so they want help from us with this. We gladly provide this support and we also contribute to the Physics lesson. So when there are shortcomings, we try to overcome them. Sometimes we interact with the English department. For example, while I was showing Teog exam of New Zealand to the students, I came across some ambiguity in the questions. I immediately asked to the English teacher, he made the necessary explanations and helped us to continue our lesson. We also cooperate with our art and computer teachers, especially when we participate in the projects, they do our posters in a dedicated way*." (T9)

> "*The studies conducted at SACs are usually done in interdisciplinary way. They take place in the form of teamwork. For example, there are studies combining Science and English. The study is started by English teacher, but he consults the science teacher for the rest of the study. The collaborative works like these are done at SACs. We have no troubles in this issue, I can say that the relationship between the teachers is strong*." (T13)

In the light of the teacher's statements, it was determined that teachers interact with each other at SACs when it comes to interdisciplinary teaching. The sample statements of teachers' views on the state of their interaction with the parents (f=5) are as follows:

> "*We do not actually work together with the parents. For parents we are closed off. This makes it difficult to have a positive relationship with the parents*." (T7)

> "*To be honest, there are many complaints from the parents about some issues. For example, there are some complaints on teachers' frequently change or not providing adequate exam preparation programs. Because of these, they are criticizing the institution. For these reasons they often do not participate in the meetings. This cause a breakdown in communication with the parents."* (T13)

These statements reveals that the level of teachers' communication with the parents is inadequate at SACs.

Discussion and Conclusions

This study examined the case of being a teacher at SACs which play an active role in the education of gifted children showed that the case of "Being a teacher at SACs" composed of " The selection of teachers for SACs ", "The characteristics of being a teacher at SACs", "Instructional activities of the teachers" and "Interaction situations of teachers".

In this study, it was concluded that teachers find the system in 2007 (old system) better in general in terms of the evaluation criteria and validity of the selection of teachers for SACs, and they cannot adopt the system in 2015 (new system) because it contains subjective evaluation criteria. It is found that the teachers consider that teachers' being taken into in-service training and preparing project are positive aspects of the old system but prioritizing the oral exam in the new system were found to be considered negatively. That the teachers' lack of knowledge about the education provided to the gifted children and the impacts of this training to meet their academic and emotional needs is highlighted in several studies (Gross, 1994; Sak, 2011). Indeed, in the study carried out by Özer Keskin, Keskin Samancı and Aydın (2013), when the participants' views about the selection of teachers for SACs are analyzed, their considering themselves as "partially sufficient" in the teacher selection

process is a remarkable result. The results of the study by Sezginsoy (2007) suggest that the problems of education and training process are related with teachers' not taking adequate in-service teacher trainings and so their not knowing what to do for developing educational applications for the gifted students. According to the results of the research done by Şahin and Levent (2015), it was stated that the teachers demonstrate a lack of knowledge of the subject matter and they need in-service training. In this study, it is also stated that teachers' competencies in the area of gifted individuals and their education can be improved by providing them pre-service training, in-service training or postgraduate education. The considerations stated above support this research resulting that the old system is better.

In this study, it was found that in addition to the requirements for the teacher selection for SACs in the old and the new systems, the criteria such as "Assessment the teachers' competency", "Receiving in-service training", "Being subjected to a personality test", "Subject matter knowledge test", "A branch at university as the department of gifted individuals teaching", "Making studies on gifted education as a preliminary evaluation criteria" must be included in the teacher selection system. There are research findings available regarding the teachers not having enough knowledge in the field of gifted education have some misconceptions related with the academic needs or social and emotional development of these students (Bain, Choate & Bliss, 2006). For this reason, considering the talents, social and emotional needs of the gifted students, it can be said that the teachers who will work in these institutions must be trained for the gifted students. In fact, that the individuals who graduated from the Department of Gifted Education work at the SACs is reported to fulfill the mission of these institutions (MNE, 2010a). In many studies, teachers trained for gifted children have been found to be able to increase their proficiency in developing instructional strategies in the education of gifted students (Johnson, Vickers & Price, 1995; Reis & Westberg, 1994). These findings indicate the need for other additional criteria for the selection of teachers which is an important area of gifted education.

The result of this research has been identified some positive aspects of being a teacher at SACs such as being a gifted instructor is privileged / prestigious, having an independent teaching-learning environment (mainly project-based activities), personal and professional development, contributing to the teaching and learning motivation and to the professional satisfaction. The students studying at the SACs receive project-based education depending on their interests and talents beside their formal education (MNE, 2010b). Creating and developing project are on the basis of the activities held at the SACs. At SACs, as a teaching model, instead of teacher teach model, students learn in a project set by themselves during which related topic is learnt by applications of their own solutions rather than teachers teaching to the students (Davasligil et al, 2004). Consequently, there is not a certain curriculum at SACs and the teaching-learning activities are formed in accordance with the the students' needs. In the light of the research findings, it is found that teachers appreciate this situation as it ensure the formation of aspecial teaching-learning environment. Furthermore, the teachers consider being a teacher of gifted students as privileged and prestigious because of skills and characteristics required. Meanwhile, it is found that capabilities of the gifted students and efforts to use these skills in the teaching-learning process to meet their cognitive and affective needs contribute to the teachers' teaching-learning motivation and their personal and professional development. The statements that the teachers' witnessing improvements in their own and the students' capabilities and their awareness of the importance of these talented students' contribution to society is found to bring them professional satisfaction.

The results of this research identified some negative aspects of being a teacher at SACs such as the long working hours, the not paid for additional classes, the parents' perceiving the education given like in the study center. In the study done by Özer Keskin, Keskin Samancı and Aydın (2013), teachers are said to have problems with working conditions and hours as there is no clear employee rights for SACs as well. Accordingly, it is stated that there is no standard for centers and different applications are available. Another functioning problem is thought to be caused by the parents not having enough knowledge about the role and responsibilities of the SACs. This situation is stated to cause parents suffering from

exam anxiety to perceive project works done at this centers negatively. The problems mentioned in this study also emerged in the findings and it was found that teachers consider them as the negative aspects of being a teacher at SACs. However, most teachers were observed to have views on positive aspects of being a teacher at SACs.

In this study, it was concluded that the teachers at SACs use instructional activities such as learning by doing, project based learning, field trips, active learning and problem-based learning. In the study done by Sezginsoy (2007), it is concluded that teachers of gifted students at SACs encourage students to generate new ideas, allow the students to express themselves in class, make students relate what they learnt in their life, make students learn topics in depth, teach subjects through exploration and questioning, and direct the students project works etc. In the study done by Yılmaz-Atik (2007), it is found that methods such as "learning through analysis", "learning through discovery" and "learning with experiments" are the preferred methods in the mathematics lessons at SACs. In the study done by Kazu and Şenol (2011), it is stated that teachers at SACs always use "Observation" and they often use "Project-based learning" and "problem-based learning" for education of gifted students. In the study done by Yıldız (2010), it is concluded that according to the teachers, students and parents, SACs contribute to the students' problem-solving skills, group work skills, creative thinking skills and to their working with scientific method. Consequently, it is seen that these studies support the results of this study.

Additionally, it was observed that there is no a grading system in the process of assessment and evaluation and in general observation and performance-based assessment is done at SACs. The assessment and evaluation process at SACs aims to support the learning process, to realize level of achievements related to the competency domains, to guide students to the disciplines or sub-disciplines suitable for their interests - abilities, and to monitor the students' all types of developments. The assessment and evaluation process in SACs, does not depend on grading. Apart from their usage for evaluation of the education process, the measurement and assessment tools applied to evaluate the education process of gifted children are used for diagnosing and exploring the children's areas of interests/abilities, and for making plans which ensure the development of the areas of ability. For this purpose, it is stated that the assessment and evaluation process of these institutions includes applications such as performance-based assessment, authentic assessment, portfolio assessment and dynamic assessment (MNE, 2014). The results of the research revealed that within these applications, teachers often use the performance-based assessment.

In this study it was concluded that the teachers communicate effectively with their students at SACs. In the study done by Kazu and Şenol (2012), it was concluded that in the gifted students' education, the smallest amount of problems is related with communication. In the study done by Tantay (2010), it was concluded that all of the teachers of gifted students can understand and communicate well with them and this supports the results of our study. In this study, it was determined that on the basis of interdisciplinary teaching, teachers interact with other teachers at SAC. Considering the purpose of establishment of SACs and the skills possessed by the gifted students, the gifted students' researching-questioning, discussing and product development skills should be supported by creating project-based learning environments with an interdisciplinary approach (Özer Keskin, Keskin Samancı & Aydın 2013). The data obtained in this study indicates that based on the interdisciplinary learning approach, the teachers interact with other teachers in the center to create this type of learning environment.

The teachers' interaction with parents at the SACs was found to be inadequate. However, in the instruction of Science and Art Centers, it is stated that teachers are responsible for their students' interactions with their families; with the environment; and with the formal educational institutions they attend to make the education provided in SACs be effective (MNE 2007). For this, the research finding that the teachers lack of communication with parents shows that the teachers at SACs are deficient in fulfilling their duties in this regard.

Based on the results of the research, the following suggestions can be made:

- The selection of teachers for SACs should be done in accordance with the criteria established objectively. For the selection of teachers at SACs the following criteria can be established; competence, taken in-service training on the gifted education, field test, to be done studies on gifted education
- The teachers should be periodically given in-service training in the education of gifted students. The contents of in-service training seminar should be prepared by considering the needs of teachers at the centers. In these trainings the application-oriented activities can be included to make teachers better in project based learning. Within the implementation and evaluation process of the in-service training program, cooperation with universities can be done and the support can be obtained from experts, organizations and institutions on giftedness.
- The undergraduate courses of the department of gifted children education include the major area courses (general), vocational courses (introduction to teaching profession, teaching practices) and elective courses. At universities, the undergraduate program for gifted education should be given separately for each branch. By this way, universities can provide gifted education training on the basis of the students' major areas (branches).
- The information about the characteristics and training of the gifted students may be given in the Education Faculty of the Universities. In this context, additional activities that give enough background information and raise awareness on gifted education may be done for the prospective teachers of the faculty of education.
- Some rearrangements and revisions can be done for the issues such as personal rights, completion of additional courses and working hours of teachers at SACs. Making teacher forget the idea of working for the additional courses and ignore the length of the working hours and do their best for the education of gifted students can be achieved by creating a working system based on the full-day, full-year principle.
- The parents should be informed about the roles and responsibilities of the SACs. MNE may organize introductory seminars about the SACs especially for the parents.
- At SACs, some works strengthen the teachers' interaction and collaboration with parents should be done.

The suggestions for the researchers in the line with this study are as follows:

- Researches concerning with the professional development and competencies of the teachers in SACs can be done.
- Researches concerning with in what way the in-service training activities improve the teachers' performance in general or for branches can be done.

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Journal of Education and Future
year: 2018, issue: 14, 149-167

The Relationship between Teachers' Educational Beliefs and Teaching-Learning Conceptions: A Mixed Method Study *

Eylem Yalçın İncik**

Abstract

The aim of this study is; determining the relationship between teachers' education beliefs and their teaching-learning conceptions. A mixed method has been used to reach the overall aim of the research. In the study, the explanatory sequential design was used as mixed method design. In this context, quantitative data were collected and analysed at the first stage. In the second stage, qualitative data were collected to help explain the findings obtained after the analysis of the quantitative data. The study group of the quantitative dimension of the study constitutes 301 high school teachers who are working in secondary education institutions in the provincial centers of Mersin province during the 2015-2016 educational year and voluntarily participating in the research. The qualitative study group consists of 45 teachers from the quantitative dimension. Education Beliefs Scale, Teaching-Learning Conceptions Questionnaire and Interview Form were used in collecting research data. In the study, the analysis of the data was carried out in two stages: analysis of quantitative data and analysis of qualitative data. Anova was used to examine whether the educational beliefs of teachers and their teaching-learning conceptions differed according to the service year variable and t-test was used to see if it varied according to the gender variable. The relationship between teachers' educational beliefs and teaching-learning conceptions was examined by Pearson's correlation coefficient. Multiple linear regression analysis has been used to determine how teachers perceive their teaching-learning conception of educational beliefs. Content analysis was used for the analysis of qualitative data. It has been determined in the research that there is a significant relationship between teachers' educational beliefs and teaching-learning conceptions. In the study, it was determined that teachers' educational beliefs were a significant predictor of constructivist and traditional teaching-learning conceptions.

Keywords: educational belief, teaching-learning conceptions, teacher, mixed method

* A part of this research was presented as an oral presentation at the 4th International Congress on Curriculum and Instruction.

** Doctor in the field of Curriculum and Instruction, E-mail: eyalcinincik@gmail.com

Öğretmenlerin Eğitim İnançları ile Öğretme-Öğrenme Anlayışları arasındaki İlişki: Bir Karma Yöntem Çalışması

Öz

Bu araştırmanın amacı; öğretmenlerin eğitim inançları ile öğretme-öğrenme anlayışları arasındaki ilişkinin belirlenmesidir. Araştırmanın genel amacına ulaşabilmek için karma yöntem kullanılmıştır. Araştırmada karma yöntem deseni olarak açımlayıcı sıralı desen kullanılmıştır. Bu kapsamda birinci aşamada nicel veriler toplanmış ve analiz edilmiştir. İkinci aşamada ise nicel verilerin analizi sonrasında elde edilen bulguların açıklanmasına yardımcı olacak nitel veriler toplanmıştır. Araştırmanın nicel boyutunun çalışma grubunu 2015-2016 eğitim öğretim yılında Mersin ili merkez ilçelerindeki orta öğretim kurumlarında görev yapmakta olan ve araştırmaya gönüllü katılım sağlayan 301 lise öğretmeni oluşturmaktadır. Nitel boyutun çalışma grubu ise nicel boyutta yer alan 45 öğretmenden oluşmaktadır. Araştırma verilerinin toplanmasında Eğitim İnançları Ölçeği, Öğretme-Öğrenme Anlayışları Ölçeği ve Görüşme Formu kullanılmıştır. Araştırmada verilerin analizi nicel verilerin analizi ve nitel verilerin analizi olmak üzere iki aşamada gerçekleştirilmiştir. Öğretmenlerin eğitim inançlarının ve öğretme-öğrenme anlayışlarının cinsiyet değişkenine göre farklılaşıp farklılaşmadığı T-Testi, hizmet yılı değişkenine göre farklılaşıp farklılaşmadığı ise ANOVA ile incelenmiştir. Öğretmenlerin eğitim inançları ile öğretme-öğrenme anlayışları arasındaki ilişki Pearson korelasyon katsayısı ile incelenmiştir. Öğretmenlerin eğitim inançlarının öğretme-öğrenme anlayışlarını ne oranda yordadığını belirlemek için ise çoklu doğrusal regresyon analizinden faydalanılmıştır. Nitel verilerin analizinde içerik analizi kullanılmıştır. Araştırmada öğretmenlerin eğitim inançları ile öğretme-öğrenme yaklaşımları arasında anlamlı ilişkiler olduğu belirlenmiştir. Araştırmada, öğretmenlerin eğitim inançlarının yapılandırmacı ve geleneksel öğretme-öğrenme anlayışlarının anlamlı yordayıcısı olduğu belirlenmiştir.

Anahtar Sözcükler: eğitim inancı, öğretme-öğrenme süreci, öğretmen, karma desen

Introduction

One of the most important actors of the teaching-learning process in education is the teacher, and the other is the student. The role exhibited by the teacher; greatly affects the communication with the student, the role of the student in the teaching-learning process and therefore the performance they exhibit. Teacher behavior is also one of the factors determining the quality and efficiency of the teaching-learning process. For this reason, it is very important to determine the beliefs and conceptions behind the behaviors of the teachers in the teaching-learning process.

Belief as a system is an idea of the individual's reality, which contains enough truth to direct the individual's own views and behaviors (Harvey, 1986). Beliefs relate to subjects, events, and cognitive schemes that the individual considers as the truth (Krows, 1999). Sigel (1985), states that beliefs can be described as the *"mental structures of experience"*. Hofer (2002), states that while beliefs are unconscious and implicit, it is possible that people are affected by these beliefs. Belief is also one of the factors that take part in the formation of the attitudes of the individual. Because the cognitive elements of attitude seen as preparatory tendencies to behavior consist of beliefs. For this reason, it can be said that the beliefs of the individuals are guiding their behaviour (Bandura 1977; Hofer & Pintrich, 1997; Harvey, 1986; Hoy & Miskel 2001; Krows, 1999; Pajares, 1992; Riggs & Enochs, 1990).

Teaching is an extremely complex task, woven with both explicit and implicit personal values and beliefs. Since teaching is a process that requires evaluation, interpretation, and choice; it is not objective and unbiased by beliefs (Ramanowski, 1997). Pajares (1992), suggests a point of view that focuses on the assumptions based on the oldest philosophical thoughts of humanity in order to better understand teacher behaviours. Under every teacher's practices, there is a set of beliefs and values that are woven into their personal and professional fabric. These beliefs and values guide teachers' education programs and teaching decisions. Because this set includes teachers' individual life philosophies, habits and experiences. They all allow a teacher to understand their practices, their students, their subjects, their roles and responsibilities (Ramanowski, 1997).

It can be stated that the primary determinant of the educational beliefs of individuals is education philosophy (Yılmaz, Altınkurt & Çokluk, 2011). Education philosophy is a field of philosophy interested in the nature of human knowledge and its reasons (Hofer & Pintrich, 1997). In the philosophy of education; problems related to the possibilities, nature, aims and methods of education are searched in response to various questions and are discussed with philosophical methods (Cevizci, 2000, p.305). Educational philosophy plays an important role in making decisions about educational programs. Because it is trying to determine the reasons for education and the reasons for the existence of schools, the ways, the types of environments in which individuals will be shaped, and the approaches (Doğanay & Sarı, 2003). To put it more clearly, education philosophy influences; selecting and interpreting goals, organising, presenting and teaching content, and making decisions about how to evaluate the success of the program (Ornstein & Hunkins, 2009). In this context, philosophical movements seeking answers to the questions about the broad meaning of education have also directed the education practices in the direction of their predicted educational conceptions (Doğanay, 2011). In this study, the philosophical movements that represent the educational beliefs of teachers are discussed as Perennialism, Essentialism, Progressivism, Re-constructionism, and Existentialism. Educational conceptions predicted by these movements are briefly described below:

According to perennialism, seen as the most inflexible, conservative and traditionalist movement among educational trends, the reality is the basic, core and universal character of the man. All truth is in the mind. Individuals should be trained in the direction of constant facts like human nature and moral principles. For this reason, education should be shaped according to the universally unchangeable facts, principles and values, and the cultural values to be transferred should direct the person to the universal reality. For this reason, the teacher should gain the knowledge of universal truths and give importance to the intellectual education of the students. In perennialism, a teacher must be an expert in their field and be able to guide the discussion. According to perennialism, since the student is not at a level

where they can judge the best knowledge and values they should learn, the interests and desires of the student are not taken into consideration (Arslan, 2002; Demirel, 2007; Gutek, 2007; Ornstein & Hunkins, 1993; Sönmez, 2012; Sözer, 2002; Varış, 1994; Wiles & Bondi, 2002).

In essentialism, it is argued that the real world is learned using reason, experiment, observation and research. Human minds are born empty. All information is learned later. Education should be based on the basic elements of human culture, knowledge, skills and events. For this reason, the school's basic function is to transfer and maintain in this manner. In Essentialism, a teacher must be an expert in the subject, knowing universal truths completely and precisely. Student; who is responsible for learning, who has no knowledge and skill, is the person who will be taught the knowledge and skill. Everything the teacher says must be memorized, done, repeated and the rules of the school must be obeyed without rejection (Ergün, 2012; Gutek, 2007; Kazu, 2002; Sönmez, 2012; Varış, 1994).

Progressivism is the form of education of the pragmatist philosophy. The main bearing of progressivism is change. For this reason, education should help people to understand changes and diversity as life itself. Individual differences are extremely important in progressivism. For this reason, the interests and abilities of the student must be considered. Education should be active, student-centered, and conducted in a way that is based on experiences and problem solving. In progressivism, the task of the teacher is to lead and guide (Bakır, 2014; Demirel, 2007; Sönmez, 2012; Sözer, 2002; Varış, 1994).

The goal of education in re-constructionism is to constantly rearrange and establish society. The basic responsibility for social change is laid on schools and teachers. Bringing out the talents and potential of the students, harbouring values such as development, love and cooperation, using the scientific method and developing critical thinking are among the objectives of re-constructionism. According to re-constructionism, learning takes place through problem-solving methods and trial-and-error and a democratic classroom environment where cultural differences are seen as richness (Bakır, 2014; Demirel, 2007; Ergün, 2012; Kaygısız, 1997; Sönmez, 2012; Varış, 1994).

According to existentialism, one can decide which way to choose, and this freedom of choice distinguishes it from all other beings in the world. The aim of education is to increase freedom. Knowledge is not objective and certain. Real knowledge is not obtained with reason; reality needs to be sensed more. Therefore, it includes feelings. For this reason, the value of the information is determined according to personally determined criteria. Since the nature of knowledge in existentialism includes them, the student should be able to choose the lesson and the teacher they want and leave it at any time. Students should be regarded as a whole. The teacher in existentialism; is a person who aids the student in need of assistance and is obliged to help develop their personality. The teacher can not guide students, but only when the student asks questions, they provide options about what they know; it is up to the student to use these options or not (Bilhan, 1991; Büyükdüvenci, 1994; Demirel, 2007; Sönmez, 2012; Varış, 1994).

Although the teachers' perspectives on education are not consciously framed by an educational philosophy, every teacher has a philosophy of education and teaching (Duman & Ulubey, 2008). The beliefs of teachers regarding the nature of knowledge and learning; has a significant influence on the choices and decisions in the teaching-learning process (Chan & Elliot, 2000; Chan & Elliott, 2004; Eisner, 1992; Pajares, 1992). When the literature is examined, it is seen that there are strong links between teacher beliefs and teaching practices (Brown & Rose, 1995; Cheng, Chan, Tang & Cheng, 2009; Ennis, Cothran & Loftus, 1997; Hashweh, 1996; Kagan, 1992; Leavy, McSorley & Boté, 2007; Lefebvre, Deaudelin & Loiselle, 2006; Nespor, 1987; Rienties, Lygo-Baker & Brouwer, 2013; Savascı-Acıkalın, 2009; Yero, 2002).

Concepts regarding teaching and learning are often related to traditional and constructive learning models (Chan & Elliot, 2004). According to Schunk (2014), there are 2 different teaching-learning conceptions in education (traditional-constructive) and these conceptions are opposed to each other.

In the traditional teaching-learning conception, “learning” and “being informed” are synonymous concepts (Güneş, 2014). In this conception where a teacher-centered approach is taken, students are seen as empty pages where the information is written by the teacher. The teacher behaves didactically and presents the information to the students. They determine what will be learned, how it will be learned and the tempo and rhythm of learning (Brooks & Brooks, 1997). This teaching-learning conception has its philosophical basis in prennialist and essentialist education philosophies (Phillips, 2003, as cited in Baş, 2015).

Constructivism, is a philosophical explanation on the nature of information (Airasian & Walsh, 1998 as cited in Smith, 2002). In constructivism, information and how an individual obtains information is explained. In constructivism, it is claims that knowledge is structured by the individual themselves (Applefield, Huber & Moallem, 2000; Cannon, 1997; Eggen & Kauchak, 2001; Schunk, 2014). Brooks and Brooks (1999) define constructivism as a simple proposition *"building our own understanding of the world we live in"*. In the constructivist conception, it is emphasized that new knowledge is formed by associating new information with previous information (Kauchak & Eggen, 2003; Sherman & Kurshan, 2005). According to this teaching-learning conception, students learn by choosing and developing their knowledge with individual and social activities. Information is not acquired, it’s constructed (Phillips, 2000). In constructive teaching-learning conception, the teacher accepts the central role of the student and prioritises bringing out their points of view. Events that will provide experiences to support students in creating personal meanings will be constructed in the class. The lessons are based on basic concepts and big claims and the students' assumptions are questioned (Brooks & Brooks, 1999). It is nourished by the philosophies of constructivism, progressivism, re-constructionism and existentialism and draws a projection to teaching and learning (Baş, 2015).

The basic components of education, which has an important function in the construction of the individual and the society the individual lives in, are; the education program, teacher and students. In order for education to be able to play a successful role in the community's constryction, it must first be shaped by the presence of that community's philosophy. Therefore, it is very important for the philosophy a society has, to be reflected on the education programmes and included in the application. Teachers are practitioners of educational programs. Teachers’ choice during the implementation process is vitally important in education programmes reaching their goals. These preferences also have an important effect in meeting the expectations of education institutions formed by the philosophy of society. The teaching-learning conceptions of teachers, even if they have not received training for a certain educational philosophy trend in the pre-service training period, are influenced by their beliefs about the nature of knowledge and learning. These conceptions lie behind the decisions of teachers about what to focus on in the teaching-learning process, which methods to use, how to make evaluations, how to manage the class; meaning the individual preferences regarding the implementation of the education program. Therefore, it is considered to be important and necessary to examine the relationship between teachers’ education beliefs and teaching-learning conceptions. In this context the main aim of this study is; determining the relationship between teachers’ education beliefs and their teaching-learn conceptions. In the framework of this general aim, answers to the following questions were sought:

1. Do the teachers' educational beliefs and their teaching-learning conceptions show a significant difference according to the variables of gender and years of service?
2. Is there a significant relationship between the teachers' educational beliefs and their teaching-learning conceptions?
3. Are the educational beliefs of teachers predicting their teaching-learning conceptions?
4. What are the views of the teachers on the purpose of education?
5. What are the opinions of the teachers on the roles and responsibilities of the teacher and the student in the teaching-learning process?

Method

Research Model

A mixed method has been used to reach the overall aim of the research. The mixed method involves philosophical assumptions guiding the management of data collection and analysis processes with a mix of qualitative and quantitative approaches at many stages of the research process. The basic premise of the mixed method is to use qualitative and quantitative data together so that the problem of research is understood better than any other method used alone (Creswell & Plano Clark, 2007). In the study, explanatory sequential design was used as mixed method design. In this context, quantitative data were collected and analysed at the first stage. In the second stage, qualitative data were collected to help explain the findings obtained after the analysis of the quantitative data. The quantitative dimension of the research was designed in the relational screening model. It is aimed in this model to determine the relationship between two or more variables that can not be causally connected, can not be changed or examined for reasons of nature or practicality (Erkuş, 2011). In the qualitative dimension, the interview form approach included in the interview method was used. In the interview form approach, it is aimed to take the same kind of information from different individuals by approaching similar topics (McMillan & Schumacher, 2006). In the interview form approach, the researcher has the freedom to ask both pre-prepared questions and additional questions in order to obtain more detailed information on those questions (Patton, 1987; as cited in Yıldırım & Şimşek, 2016). At the same time, it is possible to obtain more systematic and comparable information from different individuals (Yıldırım & Şimşek, 2016). For this reason, this approach has been preferred in the qualitative aspect of the research. The mixed method model used in the research is given in Figure 1.

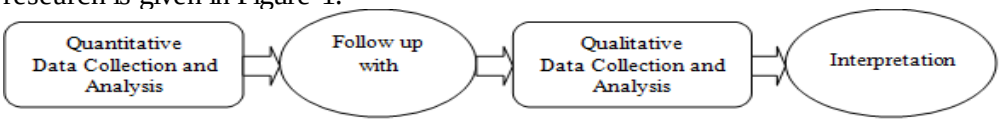

Figure 1. *Diagram of the explanatory sequential design*

The study group of the quantitative dimension of the study constitutes 301 high school teachers who are working in secondary education institutions in the provincial centers of Mersin province during the 2015-2016 educational year and voluntarily participating in the research. The qualitative study group consists of 45 teachers from the quantitative dimension. Out of the teachers who participated in the study, 48,2% (n=145) are women, and 51,8% (n=156) are men. Of the teachers, 12,3% (n= 37) had 0-5 years, 6% (n= 18) had 6-10 years, 9,3% (n= 28) had 11-15 years, 27,6% (n= 83) had 16-20 years, 24,6% (n= 74) had 21-25 years and 20,3% (n= 61) had 26 years and above seniority.

Data Collection Tools

Education Beliefs Scale, Teaching-Lerning Conceptions Questionnaire and Interview Form were used in collecting research data.

Education Beliefs Scale: In the scale developed by Yılmaz, Altınkurt and Çokluk (2011), there are 40 items. The scale is consisted of 5 sub scales; Progressivism, Existentialist Education, Re-constructionism, Perennialism and Essentialism. In the reliability analyses conducted by Yılmaz, Altınkurt and Çokluk (2011), the cronbach alpha coefficients were calculated for each subscale; .91, .89, .81, .70 and .70 respectively. In the reliability analyses performed for this study, the Cronbach Alpha coefficients obtained for the subscales were; .88, .82, .83, .70 and .75, respectively.

Teaching-Learning Conceptions Questionnaire: The questionnaire developed by Chan and Elliott (2004) and adapted to Turkish by Aypay (2011) includes 30 items. It is consisted of two sub-dimensions, constructivist and traditional teaching-learning conceptions. In the reliability analyses conducted by Aypay (2011), the cronbach alpha coefficient for the questionnaire was .71 and for the sub-dimensions was found to be .88 and .83, respectively. In the reliability analyses performed for this study, the cronbach alpha

coefficient for the questionnaire was .85; and .83 and .90 for the sub-dimensions, respectively.

Interview Form: In order to determine the teachers' beliefs towards education and their teaching-learning conceptions, a "Teacher Interview Form" developed by the researcher was used. In the first part of the two-part form, questions about the teachers' personal information and in the second part, questions about determining their educational beliefs and teaching-learning conceptions were asked. In the personal information section of the form there are three questions to determine the gender, seniority and branches of the teachers. In the second part, two open ended questions are given. In the open-ended questions, the teachers were asked what the main purpose(s) of education were and what the roles and responsibilities of teachers/students were in the teaching-learning process. Teachers were asked to respond by taking into account their own beliefs and definitions of teaching and their own classroom practices (and not what they thought should be). Prior to the application of the form, assistment was received from 3 teaching staff who were experts in Education Programs and Teaching and 3 teachers who were working in a high school affiliated to the Ministry of National Education in order to ensure coverage validity.

Data Collection Process

The data of the study were collected from the teachers working in different branches of high schools affiliated with Mersin provincial national education directorate. In the data collection process, first the purpose of conducting this research was explained to the teachers and then information was given about how to fill in data collection tools. Research was based on the teachers' voluntary participation. It took about two months to obtain the quantitative data of the study, and about one month for the qualitative data.

Data Analysis

In the study, the analysis of the data was carried out in two stages: analysis of quantitative data and analysis of qualitative data.

Prior to analysis of quantitative data, the assumptions of parametric tests were checked. It was determined that the obtained values indicate normal distribution. Therefore, it was decided to use parametric tests in the analysis of data. One-way Anova was used to examine whether the educational beliefs of teachers and their teaching-learning conceptions differed according to the service year variable and t-test was used to see if it varied according to the gender variable. The groups in which the significant differences arise because of the Anova analysis are determined by the Scheffe Test from Post-Hoc tests. The relationship between teachers' educational beliefs and teaching-learning conceptions was examined by Pearson's correlation coefficient. Multiple linear regression analysis has been used to determine how teachers perceive their teaching-learning conception of educational beliefs. Prior to regression analysis, autocorrelation and multiple links were examined between variables. Durbin Watson (D-W=2.09) value showed that there was no autocorrelation among the significant variables. The multicollinearity assumptions of the data set were checked by the correlation between the predictor variables, the Variance Increase Factor (VIF) and the Tolerance Values (Tolerance=1/VIF), which is the variance value that the other independent variables can not account for. The relationship between the predictor variables is less than 0.80-0.90, the VIF is less than 10, and the Tolerance Value is greater than 0.2, which means that there is no multiple link between the independent variables (Field, 2009, pp. 224-242). In this study, the highest correlation found between the predictive variables were (r=0.7), variance increase factor (VIF=1.38-2.55) and Tolerance Values (0.393-0.722). The obtained values show that there is no multiple link between predictor variables and that the data set is suitable for multiple linear regression analysis.

Content analysis was used for the analysis of qualitative data. The main objective in content analysis is to reach concepts and relationships that can explain the collected data (Yıldırım & Şimşek, 2016, p.242). Content analysis is often used alongside other methods. The processes that will be used differs based on the objective of the analysis and the material that will be analysed (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz & Demirel, 2015, p.247). The main reason for using content analysis in this research is to obtain descriptive

data to explain the research outcomes obtained with quantitative data. The basic process of content analysis is to bring together similar data within specific contexts and themes and interpret it in a way that the reader can understand. In this direction, the data obtained from the interview forms are primarily conceptualized and coded in the research. The obtained codes were arranged, and the codes thought to be related to each other were put together to create themes. When coding was performed, interview forms were named by sequence number and participant teachers are coded as T1, T2,.... Responses given by the participating teachers to the interview form were obtained by a researcher and a second researcher who is an expert in Education Programs and Teaching. The qualitative data set has been independently read and encoded by the researcher and expert. Codes and coding themes were examined together, and consistency was compared. The reliability of the study was calculated using the formula of Miles and Huberman (1994, p.64). The codes which are similar according to this form are called "agreement" and the codes which are different are called "disagreement". The agreement percentage for encoder reliability is calculated with the formula Reliability=Number of agreements/ (Number of agreements+Number of disagreements)*100. In this study, the reliability between coders was calculated as .82 for the first question and .82 for the second question. 70% or higher fit percentage indicates that the reliability between the encoders is sufficient. The frequencies of the theme-related codes obtained as a result of the content analysis are presented in tabular form and are directly supported by quotes from the participants' opinions.

Results

In this part of the study, the findings obtained due to the aim of the research and the research questions are included. For this reason, in the context of research questions, the findings from the qualitative data set were presented first, followed by the findings from the quantitative data set.

Findings Related to the Quantitative Data Set

The first question of the study was stated as *"Do the teachers' educational beliefs and their teaching-learning conceptions show a significant difference according to the variables of gender and years of service?"*. The results of t-test and Anova that teachers' educational beliefs and teaching-learning conceptions differed significantly according to gender and years of service were analysed and the findings are given in Table 1 and Table 2

Table 1. *T-Test results according to gender variable of teachers' educational beliefs and teaching-learning conceptions*

Educational Belief	Gender	N	x	S	df	t	p	Effect Size
Progressivism	Female	145	58.56	5.12	299	1.88	0.61	
	Male	156	57.39	5.59				
Existentialism	Female	145	32.71	2.87	299	1.68	0.93	
	Male	156	32.08	3.51				
Re-Constructionism	Female	145	29.74	4.50	299	1.04	0.29	
	Male	156	29.18	4.74				
Essentialism	Female	145	12.36	4.52	299	2.10	0.03*	0.02
	Male	156	13.42	4.23				
Perennialism	Female	145	32.90	4.92	299	0.64	0.52	
	Male	156	33.25	4.80				
Teaching-Learning Conception	**Gender**	**N**	**x**	**S**	**df**	**t**	**p**	**Effect Size**
Constructivist	Female	145	53.41	5.02	299	2.48	0.01*	0.02
	Male	156	51.85	5.79				
Traditional	Female	145	48.29	14.11	299	1.58	0.11	
	Male	156	50.76	13.00				

*$p<0.05$

The results of the t-test for the gender variable showed that there was no significant difference in the educational beliefs of the teachers according to the sub-dimensions of progressivism, existentialism, re-constructionism and perennialism. In contrast, in the sub-dimension of essentialism, it is concluded that there is a significant difference in favor of

male teachers. In the teachers' teaching-learning conceptions, it is concluded that there is a significant difference in favor of female teachers in the constructivist sub-dimension.

Table 2. *Anova results according to years of service variable of teachers' educational beliefs and teaching-learning conceptions*

Educational Belief	Sum of Squares	df	Mean Square	F	p	Difference	Effect Size
Progressivism	290.250 8442.014 8732.264	5 295 300	58.050 28.617	2.019	.75	-	
Existentialism	91.459 3041.030 3132.489	5 295 300	18.292 10.309	1.774	.118	-	
Re-Constructionism	201.048 6248.294 6449.342	5 295 300	40.210 21.181	1.898	.094	-	
Essentialism	332.187 5481.206 5813.392	5 295 300	66.437 18.580	3.576	.004*	21-25> 0-5 26 years and over>0-5	0.197 0.189
Perennialism	184.802 6901.927 7086.730	5 295 300	36.960 23.396	1.580	.166	-	
Teaching-Learning Conception	**Sum of Squares**	**df**	**Mean Square**	**F**	**p**	**Difference**	**Effect Size**
Constructivist	340.182 8690.791 9030.973	5 295 300	68.036 29.460	2.309	.044*	0-5>21-25 0-5> 26 years and over	0.155 0.156
Traditional	2205.730 52937.06 55142.79	5 295 300	441.146 179.448	2.458	.033*	21-25 >0-5 26 years and over >0-5	0.148 0.125

**p<0.05*

As a result of the Anova, which was conducted to determine whether the educational beliefs of the teachers differed in terms of the years of service variable, there is no significant difference in progressivism, existentialism, re-constructionism and perennialism sub-dimensions. According to the sub-dimension of essentialism, a significant difference is reached. As a result of the Scheffe-test performed to determine between which groups are the differences in this sub-dimension, it was seen that the difference was between teachers with 0-5 years of service and teachers between 21-25 years and 26 years and over service.

As a result of the Anova analysis to determine whether the teacher's teaching-learning conceptions differed with the service-year variable perspective, it was concluded that there was a significant difference according to the constructivist and traditional sub-dimensions. As a result of the Scheffe-test performed to determine which groups differ in these sub-dimensions, both sub-dimensions were found to be teachers with 0-5 years of service and teachers between 21-25 years and 26 years and over service.

The second question of the study was stated as *"Is there a significant relationship between the teachers' educational beliefs and their teaching-learning conceptions?"*. A Pearson correlation analysis was conducted to investigate the relationship between teachers' beliefs of education and their teaching-learning conceptions. The findings are presented in Table 3.

Table 3. *Pearson correlation analysis results of teachers' relations between educational beliefs and teaching-learning conceptions*

Educational Belief	Constuructivist		Traditional	
	r	p	r	p
Progressivism	.618	.000	-.210	.000
Existentialism	.638	.000	-.233	.000
Re-constructionism	.443	.000	.072	.215
Essentialism	-.175	.002	.660	.000
Perennialism	-.273	.000	.296	.000

**p<0.01*

As a result of analysis, constructist teaching-learning conception of teachers and have a significant positive correlation between beliefs of progressivism (r=.618, p<0.01), existentialism (r=.638, p<0.01) and re-constructionism (r=.443, p<0.01); and there is a significant negative relationship between the beliefs of essentialism (r= -.175, p<0.01) and perennialism (r= -.273, p<0.01). There is a positive relationship between teachers' traditional teaching-learning conceptions and essentialism (r=.660, p<0.01) and perennialism (r=.296, p<0.01) educational beliefs; existentialism (r=.-233, p<0.01) and progressivism (r=-.210, p<0.01) educational beliefs were found to be negatively and significantly related to educational beliefs. However, it has been found that there is no significant relationship between the teachers' traditional teaching-learning conceptions and the re-constructionism (r=.072, p>0.01) educational belief.

The third question of the study was stated as *"Are the educational beliefs of teachers predicting their teaching-learning conceptions?"*. Multiple regression findings for predicting teachers' constructivist and traditional teaching-learning conception of educational beliefs are given in Table 4 and Table 5.

Table 4. *Results of multiple regressions on the predictions of constructivist teaching-learning conceptions of teachers' educational beliefs*

	Constructivist Teaching-Learning Conception		
Predictive Variables	**β**	**t**	**p***
(Constant)	-	3.949	.000
Progressivism	.296	4.323	.000
Existentialism	.385	5.710	.000
Re-constructionism	.089	1.496	.136
Essentialism	.007	0.147	.883
Perennialism	.035	0.616	.538
R=0.676 R^2=0.46; $F_{(5-295)}$=49.729 p=0.000			

**p<0.01*

As a result of the multiple linear regression analysis conducted to determine the extent to which teachers' beliefs explain the change in their constructivist teaching-learning conception, it is seen that the variables of progressivism, existentialism, re-constructionism, essentialism and perennialism educational beliefs have a significant relationship (R=0.676, R^2=0.46) with constructivist teaching-learning conception ($F_{(5-295)}$=49.729, p<0.01). In particular, five educational beliefs together account for 46% of the change in teaching-learning conceptions. According to the standardized regression coefficients (β), the order of importance of the predictive variables on the constructivist teaching-learning conception are; existentialism (β=0.385), progressivism (β=0.296), re-constructionism (β=0.089), perennialism (β=0.035) and essentialism (β=0.007). When the significance tests of the regression coefficients are taken into consideration, it is seen that only progressivism (p<0.01) and existentialism (p<0.01) from the predictive variables are predictive of the constructivist teaching-learning conception.

Table 5. *Results of multiple regressions on the predictions of traditional teaching-learning conceptions of teachers' educational beliefs*

	Traditional Teaching-Learning Conception		
Predictive Variables	**β**	**t**	**p***
(Constant)	-	4.613	.000
Progressivism	.065	0.953	.341
Existentialism	.137	2.049	.041
Re-constructionism	.060	1.020	.309
Essentialism	.555	11.079	.000
Perennialism	.171	3.020	.003
R=0.683 R^2=0.47; $F_{(5-295)}$=51.624 p=0.000			

**p<0.01*

As a result of the multiple linear regression analysis conducted to determine the extent to which teachers' beliefs explain the change in traditional teaching-learning conception, it is seen that the variables of progressivism, existentialism, re-constructionism, essentialism and perennialism educational beliefs together show a significant relationship (R=0.683, R^2=0.47)

with traditional teaching-learning conception. That is, five educational beliefs together explain 47% of the change in teaching-learning conception. According to the standardised regression coefficients (β), the relative importance of the predictive variables over the traditional teaching-learning conception are; essentialism (β=0.555), perennialism (β=0.171), existentialism (β=0.137), progressivism (β=0.065) and re-constructionism (β=0.060), respectively. When the significance tests of the regression coefficients are taken into consideration, it is seen that out of the predictive variables only essentialism ($p<0.01$) and perennialism ($p<0.01$) are significant predictive variables of the traditional teaching-learning conception.

Findings Related to the Quantitative Data Set

Two open-ended questions were included in the study in order to determine the views of the teachers about the roles and responsibilities of the teacher and the student in the teaching-learning process and the objectives of education. The first open-ended question in the interview form is expressed as *"What is the main purpose of education as a system for you?"*. The responses of the participants to the open-ended question are presented in Table 6 and were also directly supported by quotes from the participants' opinions.

Table 6. *Teachers' views on educational purposes as a system*

Educational Objectives	Social	f	Educational	f	Towards the Individual's Achievement	f
	Transfering national and ethical values	12	To give students 21st century skills	13	Prepare for the future	12
	Raising conscious citizens	9	To give behaviour	5	To gain self-confidence	2
	Conveying cultural values as a social gain	5	Teaching to learn	4		
	To raise generations related to Atatürk's principles and reforms	2	Raising student potential	2		

When Table 6 is examined, it is seen that teacher opinions fall under three sub-themes. Teachers think education has three main objectives; "social", "educational" and "towards the individual's achievement". When the most commonly agreed upon points of the teachers are examined, the objectives of education as an educational system were, transfering national and ethical values (12), raising conscious citizens (9) and conveying cultural values as a social gain (5); educational objectives were to give students 21st century skills (13) and behaviour (5); and the objective for individual achievement were to prepare for the future (12). Some of the views of teachers on the objectives of education as a system are as follows:

> *"The aim of education is to educate and raise citizens who give importance to the national values and work for the welfare of the nation." (T28)*

> *"The purpose of education is to lay the foundations of a person to be raised into a citizen who is useful for their country, their family and themselves." (T26)*

> *"In my opinion, the main aim of education as a system is to train citizens/individuals who are ready for the future by first adhering to moral principles and culture." (T14)*

> *"The main aim of education is to train the students to prepare for the future with the qualities that they can apply throughout their lives." (T34)*

The second open-ended question in the interview form is *"What are the roles and responsibilities of the teacher and the student in the teaching-learning process?"* The responses of the participants to the open-ended question are presented in Table 7 and were also directly supported by quotes from the participants' opinions.

Table 7. *Teachers' views on teacher/student roles and responsibilities in the teaching-learning process*

	Teacher Roles and Responsibilities	f	Student Roles and Responsibilities	f
Teaching-Learning Process	Being a guide	18	To be willing to learn	14
	Being a role model	12	To have a sense of responsibility	11
	Transference	5	To have a questioning and investigative identity	7
	Self-improvement	5	To be active	6
	Uncovering student talents	2	To follow the rules	6
	Teaching to learn	1	To do homework, listen and repeate the lesson	4
	Selfless work	1	To speak in place and on time	3
	To be an actor	1	Being innovative	1
	Raising individuals who are respectful of their values, nation and humanity	1	Being entrepreneur	1
			Being result-oriented	1
			Being a planned person	1
			To express ideas freely	1

When Table 7 is examined, it is seen that the points that most teachers agree on as their roles and responsibilities in the teaching-learning process are being a guide (18), being a role model (12), transference (5) and self-improvement (5). Some of the teachers' views on their roles and responsibilities in the teaching-learning process are as follows:

"They should be the guides and leaders in the teaching-learning process. They must play a role in revealing the talents of the students." (T17)

"The teacher should be the guide to the source of information. To be able to do this, they must be responsible for developing themselves constantly." (T1)

"The teacher must be like a compass showing the way. They should not try to change the child's self. They should show that there are different ways and options in life." (T41)

"The teacher should be able to direct the students correctly. Apart from the transfer of knowledge, they must also provide intellectual development. They must be able to teach that every work done must be respected." (T40)

"In the present system, student-teacher roles are intertwined and occasionally overlap. The roles should be clear, and the roles of the teacher are teaching and transference." (T38)

When the most common points of teachers' views on student roles and responsibilities in the teaching-learning process are examined, these are seen as; to be willing to learn (14), to have a sense of responsibility (11), to have a questioning and investigative identity (7), to be active (7), to follow the rules (6) to do homework, to listen and repeate the lesson (4). Some of the teachers' views on student roles and responsibilities in the teaching-learning process are as follows:

"Students should not be passive listeners, they should be participants, active and inquisitive." (T30)

"The basic role and responsibility of students are being are of their responsibility and duties, and finishing the tasks set for them in a disciplined manner." (T39).

"First of all, they should come to school willingly so that we can teach them something."

"They should be respectful to themselves and people around them, revise their classes, do their homework and also not neglect themselves." (T43)

"Once the student has achieved proper behaviour, they should fulfill all responsibilities on time. The student is obliged to fulfill the homeworks given." (T26)

Discussion

This research was conducted to determine the relationship between teachers' educational beliefs and their teaching-learning conceptions. In this context, educational beliefs and teaching-learning conceptions of teachers are examined according to variables of gender and years of service.

When the findings of the study were examined, it was found that there was no significant difference in the educational beliefs of the teachers regarding progressivism, existentialism, re-constructionism and perennialism educational beliefs, whereas there was a significant difference in favor of male teachers in the essentialism educational belief. When the literature is examined, it is seen that similar results are obtained in different studies which support this finding. Significant differences were found in favor of male teacher candidates in the belief in essentialism in the studies of Alkın Şahin, Tunca and Ulubey (2014), Akgün (2015) and Yazıcı (2017). In the study conducted by Yılmaz and Tosun (2013), the opinions of the teachers about the educational philosophies differed according to the gender, and the findings showed that the male teachers agreed more than the female teachers in the philosophies of perennialism and essentialism. Similarly, in the study of Beytekin and Kadı (2015), it was found that gender of the teacher candidates is a variable that makes a difference in educational beliefs and that male teacher candidates have higher points than female teacher candidates in the belief of perennialism. There are also studies in the field that do not support this finding. Findings indicate that gender is not a significant variable in terms of educational beliefs/educational philosophical beliefs in the study groups conducted with different working groups (teacher, teacher candidate, education managers) (Altınkurt, Yılmaz & Oğuz, 2012; Biçer, Er & Özel, 2013; Çelik & Orçan, 2016; Doğanay & Sarı, 2003; Erbaş, 2013; Ilgaz, Bülbül & Çuhadar, 2013; Karadağ, Baloğlu & Kaya, 2009; Türkeli, 2011; Uğurlu & Çalmaşur, 2017). Another noteworthy finding is that when the educational beliefs of teachers are examined in terms of the gender variable, it is not surprising that female teachers are favored in the beliefs of progressivism, existentialism and re-constructionism, which are regarded as beliefs in contemporary educational philosophy, and the average of the male teachers are higher in the beliefs of perennialism and essentialism. When the field literature is examined in the context of this finding, it is seen that there are studies that obtained similar results (Alkın Şahin, Tunca & Ulubey, 2014; Biçer, Er & Özel, 2013; Beytekin & Kadı, 2015).

According to another finding of the research, gender variable makes a significant difference in favor of female teachers on constructivist teaching-learning conceptions of teachers. It does not make a significant difference in the traditional teaching-learning conceptions. However, the average grades of male teachers in traditional teaching-learning conception are higher than those of female teachers. When the field literature is examined, it is seen that different results were obtained. In the study of Aypay (2011), it was determined that the concept of teaching-learning differentiated according to the gender, the female teacher candidates had a higher score in the constructivist teaching-learning conception and the male teacher candidates had a higher score in the traditional teaching-learning conception. In the study of Baş (2014), it was determined that there was no significant difference in teachers' constructivist teaching-learning conceptions in terms of the gender variable, but that there was a significant difference in favor of male teachers in traditional teaching-learning conceptions. In the study conducted by Aydın, Tunca and Alkın-Şahin (2015), it was found that gender of the teacher candidates was a variable that made a difference in their preferences for constructivist teaching-learning conception and that they did not make a difference in their preference for traditional teaching-learning conception. However, in the aforementioned study, it was seen that male teacher candidates preferred the constructivist teaching-learning approach more than female teacher candidates, unlike this study. In the study carried out by Oğuz (2011), it was seen that the scores of the male teacher candidates in the traditional teaching-learning conceptions were significantly higher, but there was no significant difference when it came to constructivist teaching-learning conceptions. Aykan (2014), Ekinci (2016), Engin and Daşdemir (2015), differing from the finding of this study, found that the gender of teachers did not make a significant difference on their preferred teaching-learning understanding.

According to another finding from the survey, years of service variable of teachers do not make a significant difference in the educational beliefs of progressivism, existentialism, re-constructionism and perennialism. However, there is a significant difference between teachers who have 0-5 years of service and teachers with 21-25 and 26 years or more. When the field literature is examined in terms of this finding, it is seen that different results were obtained. In the study performed by Aslan (2017), it was found that there is a significant difference in perennialism educational beliefs between classroom teachers whose years of service are 0-5 years and the teachers who are 6-10, 11-15 and 16 years or more. In the study performed by Kanatlı and Schreglman (2014) on primary school teachers, it became clear that there was a significant difference in favor of teachers in the first five years of their profession in perennialism education belief. Yılmaz and Tosun (2013) found that teachers' years of service did not make a difference in their progressivism, existentialism and re-constructionism educational beliefs, but they made a significant difference in favor of teachers who had more seniority, with perennialism and essentialism educational beliefs.

According to another finding of the study, the years of service variable makes a significant difference in the constructivist and traditional teaching-learning conceptions of the teachers. In the study, it was found that there was a significant difference between the teachers who were 0-5 years in service and the teachers who were 21-25 and 26 years or morein service, in both constructivist and traditional teaching-learning conceptions. This difference was found to favor teachers who had 0-5 years in service in the constructivist teaching-learning conception, whereas in the traditional teaching-learning conception, it was in favor of teachers with 21-25 and 26 years or more service. This finding can be interpreted as a recently graduated teacher who was trained in constructivism adopting a more student-centered approach than colleagues whose years of service are longer and whose undergraduate studies have been completed quite a long time ago. This finding is consistent with the findings of the study conducted by Baş (2014). In the study of Baş (2014), it was determined that, as the occupational seniority increases, the more traditional teaching-learning concept is adopted, while the younger teachers with less occupational seniority adopt the constructivist teaching-learning approach. In the study conducted by Ekinci (2016), a significant difference was only found between the occupational seniority of teachers and traditional teaching-learning conception, and this difference was found to be in favor of class teachers with high occupational seniority.

In the study, there was a significant positive relationship between teachers' constructivist teaching-learning conceptions and progressivism, existentialism and re-constructionism educational beliefs; and there was a significant negative relationship between essentialism and perennialism educational beliefs. There is a positive significant relationship between teachers' traditional teaching-learning conception and essentialism and perennialism education beliefs; existentialism and progressivism educational beliefs were found to be negatively and significantly related. These findings show that teachers' beliefs about education and their teaching-learning conceptions are closely related. This finding of the survey is parallel to the findings of studies conducted by Aslan (2017) and Baş (2015). In these studies, it was determined that the relationships between the educational beliefs of the teacher candidates/teachers and the teaching-learning understandings were investigated and found to be significant.

In the study, it was determined that teachers' educational beliefs were a significant predictor of constructivist and traditional teaching-learning conceptions. It has been found that teachers' beliefs of education account for 46% of the constructivist teaching-learning conception and 47% of the traditional teaching-learning conception in the total variance. However, it has been determined that educational beliefs of existentialism and progressivism are significant predictors of constructivist teaching-learning conceptions and perennialism and essentialism education beliefs are significant predictors of traditional teaching-learning conceptions. These findings show that the teaching-learning conception of teachers with the belief of perennialism and essentialism towards education are aimed towards traditional teaching-learning conceptions, and the teaching-learning concept of teachers with progressivism and existentialism educational beliefs are shaped towards the constructivism teaching-learning conception. It can be said that the teachers who have the belief of

contemporary educational philosophy will conduct activities that are constructivist, and teachers with traditional (perennialism and essentialism) educational philosophies will conduct activitiees that are more traditional in the teaching-learning process. In this context, it is expected that teachers with progressivist and existential educational beliefs will be able to improve their potential by considering the interests and abilities of the students, in order to enrich the students' perspective on the role of the student in all stages of the teaching-learning process by applying activities that focus on experience and learning by doing/living. In the same way, for teachers who have perennialism and essentialism educational beliefs; it can be said that in all stages of the teaching-learning process they will determine students as passive recipients and they themselves, as experts and authorities; and will apply activities to transfer the knowledge and cultural heritage of society in a way that is based on universal principles, absolute unchangeables, and where the students will be passive recipients of information.

When the findings obtained from the qualitative data of the research are examined, it is seen that the opinions of the teachers about the objectives of education take place under three sub-themes; social, educational and individual acquisition purposes. It is a remarkable point that teacher's state opinions more on social purposes rather than educational purposes. This finding suggests that teachers consider national and moral values as a primary purpose of education by educating their students and transferring the common cultural heritage to these citizens to continue social existence. In the educational objectives *"acquisition of 21st century skills by students"* can be assessed in the way that teachers see today as being one of the basic functions of education, that is to say, acquiring the skills that are accepted today and believed to be possessed by individuals of a society. Also, the expression of *"attaining behavior"*, which is included in educational purposes, also suggests that teachers see education as a means of shaping the individual. This finding, when examined in the context of educational beliefs, can be said to be parallel to the education definitions of perennialist and essentialist educational philosophies. Considering the "Towards the Person's Achievement" objectives, it is seen that there are fewer opinions than the other sub-themes. In this sub-theme, teachers describe the purpose of education as the preparation of the individual for the future by enabling them to acquire the learning outcomes for sustaining their life. This finding can be said to be parallel to the educational definitions of the educational philosophies of existentialism and progressivism when examined in the context of educational beliefs.

Another finding of the research relates to the opinions of the teachers regarding the roles and responsibilities of the teacher/student in the teaching-learning process. It can be said that teachers mostly define the roles and responsibilities that a teacher should have in the teaching-learning process in accordance with the constructivist teaching-learning approach. However, it seems that these definitions are quite limited. However, expressions of "transfer" and "being an actor" can be assessed in such a way that some of the teachers have taken a role in directing information to students, that they have chosen a traditional teaching-learning conception where students are passive. When teachers' views on student roles and responsibilities in the teaching-learning process are examined, it can be said that they have define the roles and responsibilities mostly in the context of constructivist teaching-learning conception, similar to their definitions of their roles and responsibilities they see for teachers. Teachers think that students should be especially willing to learn and have a sense of responsibility. However, some teachers describe the roles and responsibilities of students in a behavior-focused, disciplined way, with one-sided communication based on certain pre-determined rules, and making homework and revisions the primary responsibility; with phrases such as "acting in accordance with the rules", "doing homework", "listening / repeating the lesson" and "on-site and on-time speaking" in the context of a teaching-learning process. This definition, made by some teachers, also supports the definition of their roles and responsibilities in the context of traditional teaching-learning conception.

There are many questions in education whose answers are sought. *"What is learning?", "What is effective teaching?", "What is effective teaching related to learning?", "What are the role and responsibilities of the teacher and the student in the learning and teaching process?"* are just a few of them. Being able to answer all these questions is important for

everyone involved in the teaching-learning process. Because these questions are a result of the search for solutions that can be used to answer the question "How should a good teaching be?" When teachers respond to the above questions within their contexts and classes, they also offer personal descriptions of effective teaching. In this context, every teacher is as unique as every student (Kauchak and Eggen, 2003). It is a fact that many variables can play a role in the differentiation and personal definitions of teachers' thoughts, preferences and practices regarding learning and teaching. It has been emphasised many times in the literature that education philosophy is believed to be one of the aforementioned variables. In this research, findings in support of the field literature were obtained and the following suggestions based on the results of the research are presented.

In this study, quantitative data and qualitative data were used together to try to obtain profound findings about the relationship between teachers' educational beliefs and their teaching-learning approaches. In similar studies to be done, more detailed data can be obtained by using different qualitative data collection methods, such as observation along with the interviews, in order to obtain application-based data. At the same time, research can be conducted on different variables that are thought to be related to educational beliefs and teaching-learning conceptions.

It has been determined in the research that there is a significant relationship between teachers' educational beliefs and teaching-learning conceptions. In this context, it can be said that the classes teachers' take regarding their educational beliefs in pre-service education may be effective in the applications that they show in their professional lives. For this reason, it can be suggested that education philosophy courses in teacher education should be taken as a compulsory course in education programs. Findings from the research show that some of the teachers' beliefs on education are perennialism and essentialism, and their views on the teaching-learning process are traditional. Teachers working at all levels, by means of these findings, can be advised to organize professional development activities based on the teaching philosophy and the teaching-learning approach that our education system is based on. This research has been carried out with the teachers who are in currently working and similar research can be carried out with teacher candidates.

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Journal of Education and Future
year: 2018, issue: 14, 169-180

An Examination of Teacher Employment Policies in Turkey and Different Countries

Ece Özdoğan Özbal[*] **Erten Gökçe**[**]

Abstract

Teacher employment is important in terms of determining and assessing the quality of education in the educational system of a country. Policies on teacher employment are both determinants of teacher training process and affect many variables in education. Teacher employment should be assessed in the context of supply and demand balance, as is the case in all areas. The quota of teacher training institutions is determined in the direction of countries' teacher employment policies and those who select teaching as a career are directed to this profession. Inadequate balance between supply and demand and lack of cooperation between teacher-training institutions and teacher-employing institutions bring with it many problems. For this reason, there should be a strong co-operation link between teacher-training institutions and teacher-employing institutions. When the teacher training and employment processes of the countries are examined, different applications attract attention. The extent to which teachers' employment models and teacher salaries affect the quality of education is a matter that requires to be investigated. For this reason, this study aimed to examine the process of teacher employment in Turkey and some countries and to reveal the relationship between teacher employment processes and educational quality. To this end, employment models of different countries have been determined and their relations with education quality indicators have been examined. The research has reached the conclusion that teacher employment processes and teacher salaries are important and affect the educational quality. Therefore, the authors of this research thinks that it is necessary to rearrange the teacher education policies in our country to improve the quality of education.

Keywords: teacher employment, employment types, teacher training

[*] Dr. Ankara University Faculty of Educational Sciences, Department of Elementary Education, Ankara, Turkey. E-mail: eozdogan@ankara.edu.tr, ORCID ID: 0000-0002-6876-183X
[**] Prof. Dr., Ankara University Faculty of Educational Sciences, Department of Elementary Education, Ankara, Turkey. E-mail: gokce@education.ankara.edu.tr

Türkiye'de ve Farklı Ülkelerde Öğretmen İstihdam Politikalarının İncelenmesi

Öz

Öğretmen istihdamı, bir ülkenin eğitim sisteminde eğitim kalitesinin belirlenmesi ve değerlendirilmesi açısından önem taşımaktadır. Öğretmen istihdamına ilişkin politikalar, öğretmen yetiştirme sürecinin belirleyicileri olmalarının yanı sıra eğitimde birçok değişkeni etkilemektedir. Öğretmen istihdamının her alanda olduğu gibi arz ve talep dengesi içinde değerlendirilmesi gerekir. Ülkelerin öğretmen istihdam politikaları doğrultusunda öğretmen yetiştiren kurumların kontenjanları belirlenmekte ve öğretmenliği kariyer olarak seçecek olan kişilerin mesleğe yönelimleri sağlanmaktadır. Arz talep dengesinin yeterince kurulamaması, öğretmen yetiştiren kurumlar ile istihdam eden kurumların işbirliğinin bulunmaması birçok sorunu beraberinde getirmektedir. Bu nedenle ülkelerin öğretmen yetiştiren kurumları ile istihdam eden kurumlarının işbirliği arasında güçlü bir bağ vardır. Ülkelerin öğretmen yetiştirme ve istihdam süreçleri incelendiğinde farklı uygulamalar dikkati çekmektedir. Öğretmen istihdam modellerinin ve öğretmen maaşlarının eğitim kalitesini ne oranda etkilediği ise araştırılması gereken bir konudur. Bu nedenle bu araştırma kapsamında Türkiye ve bazı ülkelerde öğretmen istihdam süreçlerinin incelenmesi ve öğretmen istihdam süreçleri ile eğitim kalitesi arasındaki ilişkinin ortaya konulması amaçlanmıştır. Bu amaç doğrultusunda farklı ülkelerin istihdam modelleri tespit edilmiş ve eğitim kalite göstergeleri ile ilişkileri incelenmiştir. Araştırmada sonuç olarak öğretmen istihdam süreçlerinin, mezun öğretmen adaylarının yerleştirilmesi ve öğretmen maaşları gibi istihdam süreçlerinin önem taşıdığı ve eğitim kalitesini etkilediği sonucuna ulaşılmıştır. Bu nedenle ülkemizdeki öğretmen istihdam politikalarının eğitim kalitesini, niteliğini artıracak şekilde yeniden düzenlenmesinin gerektiği düşünülmektedir.

Anahtar Sözcükler: öğretmen istihdamı, istihdam oranları, öğretmen yetiştirme

Introduction

The planning of the education is related to the manpower planning. Together with different analyzes of the planning of manpower, manpower is crucial for the sustainability of the education service. The main reason behind national manpower forecasting is that shortages and excesses of differently qualified groups of labor will constantly come out in the absence of planning, with a detrimental result to individuals and to society as a whole (Hinchliffe, 1995). Problems are generally similar in the developing countries in the planning of manpower. Unemployed workforce unemployment, hidden unemployment, seasonal unemployment, job and career change problems, and the lack of knowledge, skills and talent required by employers are some of the problems of manpower planning (Adem, 2008). In order for education policies to be implemented effectively, it is necessary to structure the labor force and employment policies in the education in a healthy way. Identification of employment relations in education is particularly important in terms of the identification of the variables in the education process and the evaluation of the education service. Evaluation of the employment processes of the teachers who have one of the most effective roles in the teaching process should be assessed for the quality of the education service and for continuing education service.

Assessment of the teaching profession covers a wide range of process from training to employment. The most important factors determining the social status of the teaching profession are the training of teachers and economic and employment conditions (Başkan, 2001). Teacher employment processes include many sub-dimensions from teacher training to employment; from in-service training processes to the evaluation of these processes and all these sub-dimensions are important in terms of shaping the employment process and understanding the value and meaning of this profession for the society (Soydan, 2012). In addition to teacher employment, developing countries also face another important problem: the ratio between school-student and teacher below world standards; in other words, the surplus in the number of students per teacher. These rates can only be lowered through the employment of adequate number of teachers. For this reason, the value and status of the profession in society is of vital importance in balancing the number of teachers needed to be employed and the number of teachers employed (Doğan, 2005).

When the process of teacher employment across the world is evaluated, it is noteworthy that the education service has turned from public service into a private service with globalization. In both teacher training and employment processes, political changes are reflected in educational services. Especially in the last two decades, changes in the educational services of the countries have been reflected in teacher training and teacher employment systems and researches on new teacher employment systems have been made (Wen-zhen, 2002; Barbieri vd, 2010; Walker &Bergman, 2013; Kee-jian, 2006;Tepe &Vanhuysse; 2009; Ross &Hutchings; 2003; Prost, 2013). Especially in the developed countries, studies are being carried out on employment, and in this context, changes are frequently made about the qualifications that the teacher to be trained and employed should have.

In this researchTurkey's and some countries' teacher employment approaches was examined and it has been debated whether the following approaches have an effect on the quality of education.

Teacher Employment Process in Turkey

The planning of education is an important step in shaping the processes of training and employment of teachers. Developing countries that struggle to implement long-term planning often apply short-term programs to the education process. Similarly, teacher employment policies in these countries are implemented based on short-term solution models.

Many different models have been implemented in both teacher employment and teacher training in Turkey. From the first years of the Republic until 1953, Village Institutes undertook the task of raising teachers at high school level, and three-year Teacher Training Schools undertook the task of raising teachers at primary level (Polatcan et al., 2016). Upon

the failure of the Village Institutes and Higher Teacher Education Schools, which followed a successful and high quality teacher training policy, to meet the rapidly increasing need of teachers over time, short-term trainings were started to be implemented for teacher training and employment. Teachers were trained and employed by means of accelerated programs that do not overlap with the profession's principles such as Instructor Courses and Training Teachers with Letters (Eraslan, 2006). Since 1982, teacher training processes have been tried to be realized by universities, and with the restructuring in 1998, teachers at the elementary level were required to obtain bachelor's degree whereas teachers at the secondary level were required to obtain master's degree without thesis (Güven, 2010).

However, since the number of prospective teachers became higher than the number of teachers to be employed over time, different applications were started to be implemented in the teacher employment. According to a regulation implemented in 1985, teachers were required to take an examination to be employed; this examination was not applied between 1992 and 1999; after 2002, Public Personnel Selection Examination (PPSE), which is a multiple-choice examination in the fields of general culture, general ability and education sciences, started to be applied. Thus, teacher employment based on results of central examination led to a decrease in the importance attached to the education given in education faculties, and to prospective teachers' resorting to private teaching institutions preparing teachers for the central examination and a profile of prospective teachers focusing only success in the PPSE (Güven, 2010). With the opening of the gap between the number of graduates of education faculties and the number of persons to be employed over the years, the importance attached to the PPSE has increased steadily.

An examination of the teacher employment models in Turkey will show that there are five employment models: permanent teachers, contracted teachers, substitute teachers, paid teachers and teachers on military duty. Permanent teachers are employed according to the paragraph A of Article 4 of the Civil Servants Law No. 657. Permanent teachers are the staff assigned to provide essential and continuing education and training services within the Ministry of National Education (Soydan, 2012). The Ministry of National Education employs prospective teachers who have graduated from the universities with the necessary training. The Ministry of National Education which determines employment conditions, employment plans and employment calendar is the main actor in the training and employment of teachers in Turkey. (Koçak and Kavak, 2014).

The Ministry of National Education manages not only the employment of permanent teachers but also the employment of all teachers. Contractual teaching status has also been implemented by the Ministry of National Education since 2005. Accordingly, in the Ministry of National Education, under the Decisions of the Council of Ministers, contracted teachers are employed according to paragraph (B) of Article 4 of the Civil Servants Law No. 657. With this employment model, the Ministry of National Education adopted the contracted teacher status as well as permanent and paid teachers (Karadeniz and Beşir Demir, 2010). Among the new models of employment, the application of “contracted teachers” is implemented according to paragraph B of the Article 4 of the Civil Servants Law No. 657 and the application of “part-time temporary teachers” is implemented according to the paragraph c of the Article 4, which constitutes legal grounds for the employment of contracted teachers (Official Gazette 12056) is as follows:

“These persons are the public service officials who are employed on contracts in temporary works requiring a special vocational knowledge and specialization, exclusively for essential and exceptional cases, which are essential for the preparation, realization and operation of important projects included in the development plan, annual program and work programs on the proposal of the ... institution and by taking the opinions of the State Personnel Presidency and the Ministry of Finance and not regarded as paid-workers by the decision taken by the Council of Ministers.”

Contracted teachers have some limitations in terms of career advancement and promotion when compared to permanent teachers. Requirement of certain conditions, such as seniority, during advancement in career steps (such as becoming directors or inspectors) can cause adverse effects on the applicants' applications.

The application of “part-time temporary teachers”, who are employed on contracts but whose legal status is different, reflects a different practice of teacher employment. Article 4/c of the Civil Servants Law on “Part-time temporary teachers” (Official Gazette 12056) is as follows:

These persons are employed on contracts in the jobs and within the specified fee and limits in one-year or less seasonal services decided by the Council of Ministers based on the views of the State Personnel Presidency and the Ministry of Finance but not regarded paid-workers.

However, this model of employment was canceled by the Council of State on 29.01.2007 due to its failure to meet the qualifications of the teaching profession. Following the cancellation decision by the Council of State, part-time temporary teachers were given the 4B status (Kuşaksız, 2011).

Another type of teacher employment besides permanent and contracted teachers is the application of “substitute teacher”. Substitute teachers are employed according to Article 86 of the Civil Servants Law No. 657. A substitute teacher is a teacher appointed from within the institution or from other institutions or as substitute when the regular teacher is unavailable; e.g., because of legal leave, temporary assignment, disciplinary punishment or suspension (Budak, 2009). Another type of employment besides “substitute teacher” is the application of “paid-teachers”. The application of 'Paid teacher' is based on Article 89 of the Civil Servants Law No. 657. The relevant article of the law is as follows:

Article 89 - (Amended: 30/5/1974 - KHK / 12, Unchanged: 15/5/1975 - 1897/1 Article) In the absence of teachers or lecturers at all levels of education and training institutions and universities and academies (including military academies), schools, courses or non-formal education institutions and similar institutions, paid additional courses are assigned to teachers, faculty members or other officers (Civil Servants Law, 1965).

Because paid teachers are employed for a shorter time than other teachers, they are hired by the provincial / district national education directorates, not by the Ministry of National Education, unlike the permanent and contracted teachers (Durmaz, 2014). Paid teachers are recruited by the provincial national education directorates and their employment processes are directed by these units. Unlike permanent and contracted teachers, paid teachers do not have a fixed salary and employee personal rights; they get paid for the number of lessons they teach.

The employment rates of the teachers in Turkey have a large share among the employment rates of the other civil servants. However, when the proportion of the number of employed teachers to the number of prospective teachers is examined, the gap between these numbers attracts attention: all of the prospective teachers who have graduated from university cannot be employed. According to the 2017 report of Teacher Training and Employment in Turkey, Current Situation and Recommendation, the number of teachers employed in the last 10 years is 447.638. The report indicates that 49.7% of all the employed teachers were employed within the last 10 years. This shows that close to half of the teachers have changed in the last ten years and almost half of present teachers were trained according to the new curricula. Another important point that draws attention in the report is that it more than one third of the teachers who are currently in charge are beginning to see relative in the last five years. As of 2016, the average length of service of the teachers in Turkey is 11.4 years. In addition, there are also large differences in the average length of service by cities. For example, while the average length of service is 1.8 years for Şırnak, it is 15.6 years for İzmir. When considering the importance of professional experience and continuity in education, these differences bring about quality and stability problems in education and training (TEDMEM Report, 2018).

Through different applications in the employment of teachers, the deficit in the number of teachers is tried to be eliminated in Turkey. Teachers' working hours are determined by providing employment for teachers in different ways. However, when the average working hours of teachers in the OECD countries are evaluated, it is noteworthy that the working hours in Turkey are low. According to the 2017 Turkey Report of Education at a Glance by

OECD, net teaching hours of Turkish teachers during the academic year in 2015 is 108% of the OECD average in the pre-school education, 91% in the primary school education, 71% in the secondary school general programs and 76% in the high school general programs. Working hours of teachers in school are, on the other hand, 94% of the OECD average in the pre-school education, 85% in the primary school education, 74% in the secondary school general programs and 76% in the high school general programs. As a result, considering the working hours of teachers in Turkey according to the 2000 and 2015 measurements, this figure ranks the last among the OECD countries. For this reason, when evaluating teachers' employment processes, it is necessary to consider their working hours and to make evaluations accordingly.

The outcomes of employment policies are important in terms of educational outcomes, educational processes and administrative processes. The research carried out with 91 prospective teachers by Yılmaz and Altınkurt (2011) revealed that the most important problems of the Turkish education system are central examinations, crowded classes, rote learning, lack of equipment and physical structure, the quality of present teachers, inequalities in access to education, politics (ideological segregation and favoritism),teacher employment system, private teaching institutions, financial problems and the problems in the vocational technical training. While the teacher employment system is very important at this point, it is also important to determine what kind of problems different employment types cause and to make systematic changes. According to the findings of a survey on the views of contracted teachers (Karadeniz and Beşir Demir, 2011), the differences between contracted and permanent teachers in terms of employee personal rights are that contracted teachers do not have the right of voluntary appointment, to perform their mandatory military duties as teachers, to become directors in educational institutions, to get a promotion, to obtain the health insurance without working for 90 workdays, to get referral from the schools they work at when they are sick (they have to apply to the provincial national education directorates),to be members of İLKSAN (Primary School Teachers Health and Social Assistance Fund), to get language, and children and spouse allowances, to apply for appointment due to educational requirements Social Security deduction made from their additional course fees, and similar employee personal rights. Another research carried out with paid teachers (Öğülmüş et al., 2013) revealed that paid teachers are not satisfied with their salaries and employee personal rights, their loyalty to the profession is low, and that their directors think that their teaching performances and competences are poor. According to another study on paid teachers (Çınkır and Kurum, 2017), problems faced by unemployed teachers are psycho-social problems (burnout, alienation, suicide), employment-related problems (working in unsecured, irrelevant jobs) and problems related to livelihood, central examination, environmental pressure.

Evaluation of different models applied in teacher employment and restructuring these models to solve problems is important. Moreover, it is of vital importance to evaluate the problems by comparing them in terms of different variables. Differences in wages, social security and working conditions of teachers who are employed according to different models although they do the same job and they carry the same title lead to professional concerns and problems. Differentiation in employment also creates an artificial differentiation and division among teachers who do the same job. Teachers become rivals against each other and this leads to problems in the organization of teachers (Cin, 2013). Therefore, evaluation and examination of different teacher employment applications in Turkey and determining the problems experienced by the teachers in these types of employment and to detect the policies to eliminate them is quite important.

Teacher Employment Processes in Some European Countries, United States and Japan

In different countries education systems are associated with the competences, employment and working conditions of their teachers. In this research, United States, France, Germany, Italy and Japan teacher employment is examined.

When the education system in the United States is examined, we can see that this system is not centralized. The entire education system contains many changes and variations according to different states and school districts within the state. The fact that the US

educational system is far from a centralized structure also causes the employment requirements to vary from one university to another (Külekçi and Bulut, 2011). Likewise, there can be different demands among the states in the process of employment of teachers. Two models are often employed in the teacher employment in Europe and the US. The first is open-ended contracts that are usually applied in the US and Europe. In practice, teachers are private sector employees. Teachers are employed by local governments or schools. In other words, there is not a centralized employment model. In this type of employment, contractual relations and therefore insecure jobs attract attention. The second is the model in which teachers are employed as state employees. Teachers in this status are employed by central, regional or local governments (Cin, 2013). Teachers who will work in local educational institutions are recruited by the authorized units in the local area (Bolat, 2016).

National high school graduation exams, called Bakolarya, examinations that play a major role in teacher selection such as CAPES, CAPET, CAPEPS, AGGREGATION at the national level and rather difficult and respected exams (seven-eight hour written, two-way translation, practical exams based on interpretation and knowledge) are used in the teacher employment process in France (Kıran, 1995). Teachers must be successful in the exam prepared by the Teacher Training Institutes within the universities. Following this exam, an interview about the attitudes towards the profession is conducted and those who pass the exam are employed as trainee teachers by the Ministry of Education (Demir and Gür, 2000). In France employers of the taechers are; Central education authority (Ministry of Education, for civil servants);regional education authorities; for contract (public or private) employees, schools (for replacement teachers); superior in addition to central education authority (Ministry of Education) and the school (for contractors in private schools) (OECD, 2013). Recent reforms in France have aimed to associate pre-service and in-service trainings, provide continuum in teacher training and extend the duration of vocational training. During these two years, teachers both continue their job as teachers and receive vocational training at the IUFM. Teachers have to receive training at IUFM for at least one month in the first year and for at least two weeks in the second year (Uygun et al., 2011).

Prospective teachers in Germany receive an academic education in high-schools of teaching in universities, in educational institutes, in music and arts education schools or in multipurpose universities according to the structure, characteristics and branches of the institutions (Lehrerbildung, 2009; cited by Keçici, 2011). Unlike Turkey, Germany, which has teacher trainings in different areas, does not have classroom teaching program in universities. There is a first (elementary) and second level (secondary school) teaching program that covers the classroom teaching program (Sözen and Çabuk, 2013). Prospective teachers who successfully complete the trainings given at universities are employed. If the prospective teachers who complete their higher education pass the 1st State Exam prepared by the State Examination Office in each state, they may start working as teachers (Oktay, 2014). Teachers who have been employed have civil servant status according to the law and are generally employed by the state.

Because education is very important in Japan, education expenses are also so high. In order for the teachers, who are the subjects of education, to be employed, they need to get a teaching certificate. Prospective teachers who receive this certificate apply to the "Regional Education Agency" to become a teacher. The education director receives the opinion of the director of the relevant school about the prospective teacher. Prospective teachers are invited by the Education Board to a written examination prepared by the Education Directorate. Prospective teachers who are successful in this test are recruited as trainee teachers; those who complete the six month internship period are recruited as permanent teachers (Yüksel, 2014). In the process of selecting prospective teachers for teacher training institutions, the prospective teacher is subjected to a two-stage test. The first stage is the nation-wide examination. This exam measures the skills and knowledge of students in Japanese language, foreign language, mathematics and social sciences. After this examination, each university also holds an interview or aptitude test (NCEE, 2013 cited by Mete, 2013). The exams by the institutions are mostly written, oral and practice exams (Mete, 2013). Following these two steps, the prospective teacher begins to receive the training necessary for the teaching profession. Even though there is no standard skill and attitude examination or evaluation in

Japan, teacher training institutions hold skill and attitude exams when selecting prospective teachers. This assessment is carried out in the form of interviews or examinations (Yeşil, 2016). In Japan, for teachers to be appointed to the state institutions, they take a centralized examination called "Teacher Employment Selection Exam" and apply to the Regional Education Boards and take written exams and interviews prepared by these boards. In Turkey, prospective teachers must take Public Personnel Selection Examination to be employed in state institutions. There is no interview application in Turkey as in Japan (Aldemir, 2010).

In Italy, primary school teachers receive a 4-year education at the teacher institutes; kindergarten teachers receive a 3-year education in teacher schools. Secondary and high school teachers are required to university graduates. Teachers of some branches, such as painting, music, physical education, which require certain ability, are trained in private institutions. In addition, in-service training courses are given to teachers, new teaching methods and techniques are taught, and teachers are informed about developments in the field of education (Yüksel, 2014). Employers of the teachers are central education authority (public schools only) and teachers have civil cervants (OECD, 2013).

An Evaluation of Teachers' Working Conditions and PISA scores

Teacher status varies in each country. Teachers' annual salaries vary from country to country according to different working conditions such as permanent, paid, contracted teachers. In selecting the teaching profession and continuing that profession, in addition to the employment conditions in the country, the social rights of the profession also have an influence. Another factor in the preference of the professions is salary. Table 1 shows the starting salary amount of a teacher working in public primary education institutions in some countries.

Table 1. *Annual teacher salaries at initial level in primary education institutions (in US dollars)*

	Years			
Countries	**2000**	**2005**	**2010**	**2015**
Turkey	12410,10	17909,08	23129,93	27285,00
USA	276310	33520,58	36857,83	42563,33
France	20199,40	23212,39	24333,95	28524,57
Germany	31212,56	40124,6	46455,55	54426,23
Japan	22669,59	25592,75	25453,61	29009,32
Italy	20927,19	24224,24	27014,94	27941,55
OECD Countries Avarage				30838,45

Reference: World Bank Education Database, http://databank.worldbank.org/data/reports.aspx?source=Education%20Statistics, Date of Access: 10.18.2017

As seen in Table 1, the starting annual salary of primary teachers in Turkey, France, Japan and Italy is lower than the average of OECD countries. In addition, the table indicates that the salaries of teachers in Germany are well above the OECD average. Table 2 shows the starting annual salary amount of a teacher working in secondary public institutions.

Table 2. *Annual teacher salaries at initial level in secondary public institutions (in US dollars)*

Countries	Years			
	2000	**2005**	**2010**	**2015**
Turkey	11353,85	18178,68	23780,10	27285,00
USA	27751,00	32367,45	37266,83	43677,70
France	22358,45	25960,40	27420,37	31499,39
Germany	37393,78	45021,87	53962,67	61589,02
Japan	22669,59	25592,75	25453,61	29009,32
Italy	22657,38	26107,65	29121,71	30121,92
OECD Countries Avarage				33823,82

Reference: World Bank Education Database, http://databank.worldbank.org/data/reports.aspx?source=Education%20Statistics Date of Access: 10.18.2017

Table 2 shows that the starting annual salary of secondary teachers in Turkey, France, Japan and Italy are lower than the OECD average. In addition, the table indicates that the salaries of teachers in Germany are well above the OECD average. The level of development of countries and the importance they give to education have an influence on their different salary policies.

PISA 2015 data, which assess the teacher salaries of countries with student achievements, presents a different dimension. Figure 1 shows PISA Reading, Science and Mathematics scores for 2015 and average teacher salaries for eight countries.

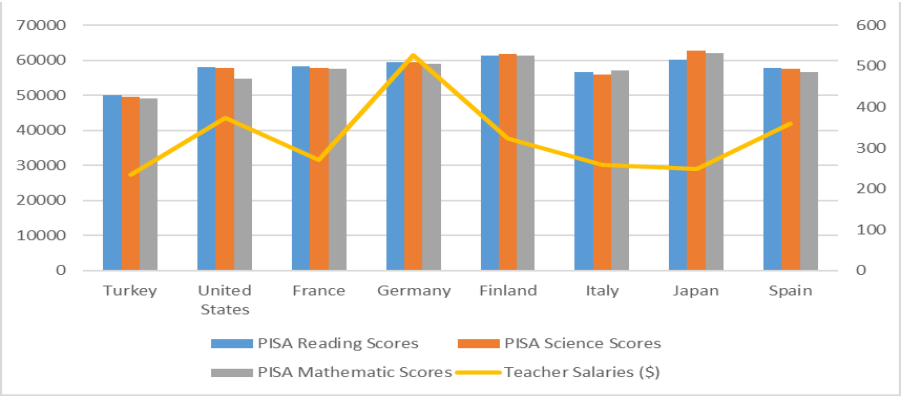

Figure 1. *PISA scores of 2015 and teachers' salaries*

As seen in Figure 1, Turkey is the country with the lowest PISA scores and teacher salaries. When Finland and Japan are examined, it can be seen that the teacher salaries of these countries, which have the highest scores, are not the highest among the other countries. Moreover, Germany, which has the highest salary, does not have a high percentage in the PISA exam scores. In sum, the salary policies that countries implement are not the only reason that increases success; additional indicators are also necessary for student success.

Conclusion and Discussion

Models related to teacher employment and the conditions of employment models are important in the preference of the teaching profession. This research, which aimed to investigate teacher employment processes in Turkey and some countries and to reveal the relation between teacher employment processes and educational qualities, concludes that teacher employment models have different conditions.

Teachers in Turkey are evaluated differently according to their employment types after obtaining a bachelor's degree. Permanent and contracted teachers are employed according to the scores they receive from national examinations and the interview process following this. In paid teacher and substitute teacher models, however, local and temporary employment processes are applied more often and district national education directorates assume more active roles in the process. Similar to Turkey, Germany, France and Japan have a teacher selection test at the national level. Again similar to Turkey, France and Japan hold interviews in addition to the exams. While a more centralized structure is employed in the employment of teachers in these countries, teacher employment in the US is completely different from the ones in these countries. An evaluation of the process of employing teachers in the United States shows that a decentralized system, in which local governments take more active roles, is adopted across the US. The system in which the employment processes among the states differ depends on local demand.

As in all areas, teacher employment should be assessed within the supply and demand balance. Cooperation between teacher training institutions and institutions that

employ teachers will prevent the surplus or deficit in the number of prospective teachers, and significantly reduce the problems in the employment process. Steps such as teacher training, which constitute a significant part of countries' education systems, need to be carefully assessed.

Development of the qualifications in the teaching profession depends on the creation of employment policies which are consistent with the reality of our country, take into account national and international developments and are based on objective measures. The employment policies and current practices in Turkey also directly affect the occupational motivations of teachers. This reduces the quality of education by affecting the attitudes and behaviors of teachers.

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Journal of Education and Future
year: 2018, issue: 14, 181-197

Investigation of the In-service Teacher Training Programs in the United States and Recommendations for Turkey: The Case of Kent Education Excellence Partnership (KEEP)*

Necdet Aykaç**

Abstract

In the current study, the purpose was to evaluate the professional development school applications conducted under the coordination of Kent State University in the USA on the basis of the researcher's observations and the faculty members' opinions to come up with suggestions for the in-service teacher training programs conducted in Turkey. The study is a qualitative case study. Being an example of the professional development school applications, Kent State Excellence Partnership (KEEP) program was evaluated by seeking the opinions of two faculty members who are among the main elements of the program and of 17 teachers having participated in the program. Moreover, document analysis and observations were conducted to evaluate the applications. The data of the study were collected through the semi-structured interview technique, and a questionnaire. The data collected through the interviews conducted with the faculty members and teachers' written responses to the questionnaire items were analyzed by using the "content analysis" technique and then interpreted by the researcher. The application process of the program was observed by the researcher, who was in the position of a participant observer, and an assistant doing doctorate in Kent State University and thus, two separate observation reports were written. Recognizing that there are no significant differences between the observations, two reports were combined into a single report through discussion. The findings of the study revealed that the faculty members are of the opinion that teachers come together for professional development and learning within the context of the professional development school applications, that participating teachers make their own decisions about what they want to learn and that they learn in a learning process based on reciprocal interaction. The teachers having participated in the program stated that the most important contribution of KEEP applications is the creation of a university-school partnership and their working in cooperation with other teachers. According to the observations of the researcher, in professional development schools, teachers find opportunities to develop themselves, their colleagues and schools as practitioners, researchers, listeners and active participants in the planning and implementation of the learning process.

Keywords: Professional development school, in-service teacher training, teacher education, teacher training, pre-service teacher education

* This research was supported by TUBITAK under the Grant 2219
** Associate. Prof. Dr., Muğla Sıtkı Koçman University, Faculty of Educational Sciences, Muğla, Turkey. E-mail: necdetaykac@hotmail.com

Amerika'da Hizmetiçi Eğitimde Uygulanan Mesleki Gelişim Uygulamasının İncelenmesi ve Türkiye'ye İlişkin Öneriler Kent Education Excellence Partnersip (KEEP) Örneği

Öz

Araştırmada ABD Ohio Eyaleti Kent State Üniversitesi koordinatörlüğünde yürütülen Mesleki Gelişim Okulları uygulamalarını araştırmacının gözlemleri, öğretmen ve öğretim üyelerinin görüşleri doğrultusunda değerlendirerek, Türkiye'deki öğretmen hizmet içi eğitimine yönelik olarak öneriler sunulması amaçlanmıştır. Araştırma nitel bir durum çalışmasıdır. Mesleki Gelişim Okulları uygulamasının bir örneği olan Kent State Excellence Partnership (KEEP) uygulamasına ilişkin olarak programın ana unsurlarından olan iki öğretim üyesi ve uygulamaya katılan 17 öğretmenin görüşleri alınmıştır. Ayrıca doküman analizi ve uygulamaya ilişkin olarak gözlemler de yapılmıştır. Araştırmada veriler nitel veri toplama yöntemlerinden biri olan yarı-yapılandırılmış görüşme tekniği ve anket ile toplanmıştır. Öğretim üyeleri ile yapılan görüşmelerden elde edilen veriler ve öğretmenlere yazılı olarak gönderilen anket soruları "içerik analizi" tekniği kullanılarak çözümlenmiş ve araştırmacı tarafından yorumlanmıştır. Programın uygulama süreci araştırma sürecine gözlemci olarak katılan araştırmacı ve Kent State Üniversitesi'nde doktora yapan bir asistanla birlikte gözlemlenerek iki ayrı gözlem raporu tutulmuştur. Gözlemler arasında önemli farklılıklar olmadığı görülerek iki rapor tartışılarak tek rapora indirilmiştir. Araştırma sonucunda, öğretim üyeleri, mesleki gelişim okulu uygulamaları ile öğretmenlerin mesleki gelişimi ve öğrenmeleri için öğretmenlerin bir araya geldiklerini, neyi nasıl öğrenme istediklerine ilişkin olarak kararlarının kendileri tarafından verildiğini, karşılıklı etkileşime dayalı bir öğrenme sürecinin oluştuğunu belirtmişlerdir. Uygulamaya katılan öğretmenler ise, KEEP uygulamasının en önemli yararının üniversite ve okul işbirliği olduğunu ve diğer öğretmenlerle işbirliği halinde çalışmaları olduğunu ifade etmişlerdir. Ayrıca öğretmenler, bu işbirliği sayesinde öğrenme-öğretme sürecine ilişkin farklı bakış açıları kazandıklarını, yeni arayışlara yöneldiklerini ve farklı okullardaki öğretmenlerin öğretim pratiklerini görerek birbirlerini zenginleştirdiklerini belirtmişlerdir. Araştırmacının gözlemlerine göre de mesleki gelişim okullarında öğretmenler, araştırmacı, uygulayıcı, dinleyici ve öğrenme sürecinin planlamadan uygulamaya kadar aktif bir katılımcısı olarak kendilerini, meslektaşlarını ve okullarını geliştirebilme olanağına sahip olabilmektedirler.

Anahtar Sözcükler: Mesleki gelişim okulları, hizmetiçi eğitim, öğretmen eğitimi, öğretmen yetiştirme, hizmet öncesi eğitim

Introduction

Training of qualified teachers is still an important issue for countries. Many national and international organizations conduct various comprehensive campaigns in this regard (UNESCO, 2012). Educational programs and teachers as the implementers of these programs play important roles in training of qualified individuals. The teacher is one of the basic elements of an education system. Countries that are successful in international tests (e.g., TIMMS) underscore the importance of training qualified teachers for their success (Barber & Mourshed, 2007). The quality of the teacher seems to depend on training them effectively. Therefore, it is of utmost importance to evaluate the teacher education and professional development systems in different countries and to revise teacher education programs in light of these evaluations.

The skills necessary for teachers to succeed in their classes can be improved through effective training programs. By doing so, investments that are made for the professional development of teachers will not only increase the quality of the education system but also open the way to train successful students and to develop schools. In this respect, providing professional development opportunities for teachers is required. However, professional development activities provided for teachers should not only be limited to conferences and seminars but also teachers should be allowed to conduct research with their own students in their classes (Levin and Rock, 2003). In such a professional development program, the teacher will be able to take on the roles of planner, practitioner, and researcher not only that of the listener. According to Darling-Hammond and Mc Laughlin (2011), in in-service teacher training programs, the training approach designed in line with active learning process and including different methods such as cooperative learning should be adopted. One of the teacher training models that allow teachers to actively participate in learning process, conduct research like a researcher and develop on their own and together with other teachers in cooperation with a university is the Professional Development Schools (PDS).

By establishing a link between schools and universities, PDSs focus on training of pre-service teachers, professional development of experienced teachers, provision of quality education for students and continuous improvement of practices (Teitel, 1997). PDSs provide teachers with many opportunities including learning from peer discussions, independent reading and observing the work of their colleagues (Mizell, 2010).

In PDSs, teachers try to contribute to others' professional development as well as their own development and they believe that they are responsible for the success of the whole school. PDSs present opportunities for teachers to learn in cooperation with their colleagues. In PDSs, pre-service teachers are provided with environments where they can work together with their mentors and scientists from universities and learn from their experiences so that they contribute to everyone's professional develop (Gürşimşek, 1998). PDSs not only train pre-service teachers but also offer lifelong learning opportunities for novice and experienced teachers on the basis of a school-university cooperation (Holmes Group, 1990). PDSs share learning practices of teachers working in teams to enhance the educational quality of school communities. These practices also help students to learn better (Panich, 2012). In addition to this, such programs focus on learning rather than training of teachers through group discussions directed towards their day-to-day professional practices (Mitchell and Sakney, 2001; Toule and Lours, 2002). Professional development schools involve a learning and teaching process in which teachers actively participate in learning and decision making, work like researchers in cooperation with academicians from universities, take important responsibilities and invest great efforts for their personal development and development of other teachers and schools. By allowing democratic participation in management and organization and in decision making process, PDSs develop the teacher's leadership role. In the administrative committees of PDSs, teachers, school directors and academicians can take part in. Thus, in these administrative committees, democratic processes can be run and everybody can participate in decision making process. These committees undertake the task of disseminating, planning, administering and evaluating the policies of PDSs (Benedum, 2004).

Today there is a common agreement that the most effective professional development practices are those that provide teachers with classroom practices and collaboration. In this respect, PDSs put great emphasis on the professional development of teachers, promote cooperation, sharing and common goals and make intensive efforts to achieve them. PDSs focus on lifelong learning in schools as well as on the external and internal dimensions of learning (Early and Bubb, 2004). In order to improve professional development practices at schools, PDSs carry out research, develop new models, and share them with teachers through conferences and presentations (Kofman and Green 1993). Also for teachers, they organize reading clubs, regional and national conferences, peer coaching, visits to other schools and workshops. By doing so, PDSs aim to create educational opportunities that are flexible and cooperation-oriented as opposed to in-service training (Teitel, 1997). In this cooperative atmosphere of PDSs, the leadership role of teachers is strengthening (Jet-Simpson, 1992). Teachers adopting the role of leadership can more effectively promote and interpret educational programs (Ben-Peretz, 1990). In this respect, PDSs can play a very important role in the professional development of pre-service teachers and teachers as well as in the promotion of the leadership role of teachers.

Professional development schools include all the professional development activities improving the quality of learning process and through which teachers actively participate in a learning process aiming to encourage teachers to develop themselves (Bolam, 1993). PDSs adopt an effective approach for teachers to develop themselves by drawing on their experiences. For this approach to be effective, teachers should share information in groups, carry out planning activities together, make decisions in cooperation, construct educational process together and share the outcomes of their practices with each other. These applications can play an important role for novice teachers to make use of the knowledge and experiences of experienced teachers (Darling – Hammond, 2005). Seen from this perspective, while professional development schools enable novice teachers to be informed about the experiences of teachers from different schools by participating in workshops together with experienced teachers, they also provide opportunities for qualified teachers to take responsibilities for the development of novice teachers as mentors. Moreover, PDSs establish university-school cooperation and thus enable academicians to see the problems at schools and teachers to capitalize on academicians' knowledge base. University-school cooperation particularly provides opportunities for trainee teachers to make observations and applications, to get guidance and counseling services, to participate in seminars and to share with their colleagues. Though there are some differences among the states, professional development schools are effectively functioning in the US with their school-based in-service training activities.

PDSs in the United States (US) aim to set some learning standards including:

- Working with inexperienced teachers,
- Training experienced teachers as mentors / group leaders,
- Working with teachers, researchers and trainers in the application process,
- Teachers are both colleagues and learners,
- Creating a learning-centered structure (Darling Hammond and McLaughlin, 1995).

PDSs function like a place where trainee teachers complete their teaching practice under the guidance of these standards. School-university cooperation is one of the primary tenets of professional development schools. Schools working in cooperation with universities are called with different names such as professional development schools, professional practice schools, partner schools, clinic schools and teaching schools. The most popular one among these is professional development schools (Hallinan and Khmelkov, 2001).

PDSs are a concept covering lab schools, partnership schools, in-service learning and all the other attempts (Wong and Glass, 2009). Professional development schools aim to train teachers and develop schools based on the idea that for good schools, good teachers are needed and for good teachers, good schools are needed (Clark, 1999). In this regard, professional development addresses the development of schools and teachers simultaneously and provides important opportunities for schools to develop their quality by working in cooperation with universities.

States have different policies in terms of the support they offer for their teachers who want to participate in PDSs. While some states give free time to their teachers to participate in professional development programs, some others encourage their teachers to participate in these programs within school hours. Teachers are supported for their participation fees to workshops and conferences and transportation fees and for their university tuition fees (Darling-Hammond, 1994). This support positively affects teachers' participation in professional development programs. High participation in these programs has positive impacts on increasing the quality of teaching profession. It can be said that teachers are highly motivated to participate in PDSs because they must renew their teaching certificate/license in every five years and holding a master or doctorate degree increases their wage.

In the current study, professional development services offered to teachers in the US have been examined through observations, interviews, school trips and analysis of curriculum and if the good sides of these services are determined and then they will integrated to the teacher training programs organized in Turkey; thus, great contributions can be made to the development of teachers.

The purpose of this study is to investigate the professional development applications conducted in the coordinatorship of Kent Education Excellence Partnership, in the Ohio State of US in accordance with the researcher's observations and university faculties' and teachers' views and by this way to provide recommendations regarding the in-service teacher training of Turkey. With regards to this purpose, this study mainly sought to address the following research questions:

1. What do the academicians at Kent State University think about the application of Kent Education Excellence Partnership (KEEP)?
2. What are the opinions of teachers who participated KEEP regarding the application?
3. What are the observations of the researcher regarding the application of KEEP?
4. What can be recommended for the in-service teacher training of Turkey?

Method

Research Model

This study was designed as a qualitative case study. Data were collected in 2015-2016 academic year. In this study, the opinions of academicians and teachers, who are the main elements of the programs, concerning Kent State Excellence Partnership (KEEP) program, an example of professional development schools were received. In addition to this, document analysis and observations regarding this application were conducted.

Participants

The participants of this study consisted of 52 teachers who participated in the application conducted in the coordinatorship of KEEP. However, the data were collected from 17 teachers who submitted the online interview and also two academicians with whom face-to-face interview was performed and who maintained the coordination of the application.

Table 1. *Characteristics of the participants*

Subject area		School level		Educational level	
All subjects (General)	3	Kindergarten	1	Bachelor	3
Science	1	Elementary (1 to 8 grade)	7	Master's Level	14
Chemistry	1	Secondary (9 to 12 grade)	6		
Mathematics	1	Curriculum director	3		
English	4	Administrator	3		
Government/Economics	1				
Math, Science, Lang. Art	1				
Early childhood	2				
Total	17		17		17

As seen in Table 1, some of the teachers who participated in the application and voluntarily answered the interview form are school principals, program coordinator,

kindergarten, elementary school or high school teachers and also they teach various subjects including mathematics, English, general, science and chemistry, etc. The most important finding distinguished in this table is that among these 17 teachers, 14 teachers have master's degree whereas only 3 of them have undergraduate education.

Data Collection Instruments

In this study, multiple data collection methods were used including semi-structured interviews, observation and structured open-ended questions. The written semi-structured form consisted of two parts: a) six open-ended questions about the teachers' views about the KEEP and b) demographic information. To establish validity, three experts who specialized in curriculum development, educational administration, and assessment and evaluation were asked for their opinions about the semi-structured interview form. In line with their feedback, the questions were revised. By this way, the semi-structured interview form consisted of 10 questions. The interviews with academicians were conducted in their offices. It was paid attention for the interview to be at a silent and natural environment. The interviews were recorded with permissions.

The open ended-question form consisted of nine questions. In accordance with expert opinions, three questions were omitted and at last a form with six questions was attained. Once IRB permission was granted, structured open-ended questions were administered to teachers via email. 17 voluntary teachers submitted the structured open-ended question form on Qualtrics. The structured open-ended form included questions aiming to reveal the participating teachers' opinions about the application of the KEEP, the negative and positive sides of the KEEP, how the KEEP contributed them and lastly about the mentoring applications. Besides, the interview conducted with academicians comprised of questions about mentoring applications aiming to elicit the faculty members' opinions about the KEEP, its advantages and disadvantages and the reflections of this application into the collaboration between universities and the schools.

Another data source was the researcher's observational field notes. The researcher participated in the application process of KEEP and observed workshops, presentations, discussions, evaluations and reported his observations and applications regarding them together with an assistant working at Kent State University. The researcher participated in the applications for five months as an observer in 2015-2016 spring and summer terms. During the spring term, four meetings were held within the scope of professional development school applications. Besides, in the summer months, two meetings lasting for two days were conducted. In these meetings, two-day symposiums were arranged in which teacher presentations, workshops and panels took place.

Data Analysis

In this study data obtained from interviews with two faculty members and from the teachers via online open-ended question form were analyzed by utilizing qualitative content analysis method and interpreted by the researcher. All the data which were obtained by the interviews with faculty members and recorded were transcribed. Interview analyses were checked by the researcher's reading them carefully. In order to provide reliability, one fourth of the data set was analyzed by another independent researcher. The transcribed data of interviews were compared and 88% agreement was calculated. The disagreements were solved through discussion. In addition, the opinions of interviewers were reflected as they were and no changes were made. The researcher participated in the application process of the program together with an assistant taking his doctorate at Kent State University, hence two different observation reports were attained. After determining that there were not significant differences between the reports, two reports were combined and a report was obtained.

Limitation of the Study

In the study, as a limitation of the professional development schools, it can be asserted that practical implications of the professional development school in the US might vary in different states. Because, the interviews and observations of this study were limited with the teacher training programs applied in Ohio Kent State Universtiy, and also with the opinions

of teachers who participated in the application of KEEP and faculty members working in the application.

Findings

Faculty Members' Views on the Application of Kent Education Excellence Partnership (KEEP)

Two faculty members at Kent State University and principal investigators of KEEP reported that the KEEP was a different project mainly aiming at promoting teachers to develop their professional development by themselves. The faculty members described what makes the KEEP different from others as follows:

> *P1: I think, often professional development in schools work in a way that the schools bring in an expert and the expert is, is teaching and its sort of a top down… but this particular, this KEEP Academy, is a little different because it's totally the teachers coming together to plan what they want to learn and how they want-, in the manner in which they learn in.*
>
> *P2: We organize workshops and conferences that with our committee and then we offer them to the schools. But sometimes we plan workshop stuff with the school committee.*

The faculty members mentioned that experts who specialized in professional development taught teachers at the schools. However, teachers came together and decided what and how they wanted to learn. Teachers stated that by doing this, they took active roles on their professional development and learning. Therefore, the KEEP involved a process in which faculty members and teachers participated in the decision-making process together and learned from each other. In addition, the faculty members stated that teachers could attend in educational training seminars or workshops organized by the faculty on any topic teachers asked for. The faculty members described the collaborations between the university and the school established through the KEEP as follows:

> *P1: Professional development office of Kent state university provides opportunities for teachers' professional learning. We are working with schools in a variety of ways. For instance, we are offering professional development training for teachers and pre-service teachers as well.*
>
> *P2: I think that at Kent State University, we do a very good job about professional development, but I think it's important for every university to be aware of teachers' needs and provide professional development for them.*

Faculty members stated they always keep in touch with schools because they need schools and schools need them. They reported that the purpose of professional development is twofold: a) to provide teachers with in-service training for their professional development and b) to give practical implication to pre-service teachers at classrooms. Thus, professional development schools not only play a critical role in increasing the quality of teaching for teachers and pre-service teachers but also create an environment for collaboration between the university and the school. Additionally, professional development schools allow faculty members to be aware of what the schools need and bring theory and practice together. Faculty members described how they contact with schools and find teachers as follows:

> *P1. We asked the school districts close to us whether they would like to be involved in the professional development schools project; thus, we increased the number of school districts we are working in cooperation with from 8 to 13. People are positive, you can see that positivity and willingness.*
>
> *P2. Three are two people from the university and the remaining 55-60 people are from different schools. I took long time and great effort to organize this; we had to make a lot of phone calls, send a lot of e-mails and hold many meetings. All of these took nearly one year.*

Faculty members stated that they are always in interaction with schools and provide professional learning activities for teachers. In this respect, they have now thirteen schools whose teachers voluntarily participate in the KEEP. Faculty members stated that they use different ways to reach these teachers including e-mail, phone calls and meetings. They

stated that teachers seem very motivated to participate in the KEEP. They also mentioned that most of teachers in KEEP enthusiastically attend workshops, take active role in class discussions and do not miss any activity in the KEEP. This indicates that motivation and enthusiasm teachers have may positively influence the outcome of the KEEP. Faculty members described the benefits of the KEEP as follows:

> *P1. I think there are a couple levels of benefit. the first is it's giving, as a researcher, it's an opportunity to see , how certain aspects of public policy are affecting teachers, but also then how their applying pedagogical practices that either we teach or you know, are deriving from their settings so it's, its wonderful contact that way. with teachers and with students but then the other aspect of it that's very interesting is you know,just socially, there's a benefit from connecting to teachers because I was a public school teacher so to have that interaction again is personally enriching for my own teaching I found. Because I've gone to the conference and I've listened to people present about teaching and you know, it's the same job I do.*

> *P2. KEEP Academy is a program with 13 other school districts and you saw that teachers are planning professional learning for other teachers.We have other graduate programs like this where some of these are our professors, they are on our faculty and they teach these workshops. At the KEEP Academy, the teachers are the ones doing the workshop. so KEEP is a little bit different. we also had a just last week, we had a school psychology conference and there were about 100 people who came to the workshop and several of them earned graduate credit and one of our professors taught an online class so to, KEEP Academy, this is another kind, people go to conferences and when they attend the conference, they can get a graduate credit and, and our professors were teaching the class so there is all different ways that professional learning is provided.*

Faculty members stated that observing teachers' practices, communicating with them and teachers' presentations in the meetings enhanced their teaching and learning visions. This indicates that PDSs does not only contribute to professional development for teachers but also give opportunities for faculty members to develop their visions. Thus, PDSs have potential to increase the quality of teacher education by contributing to the development of teacher educators. Additionally, they stated that the KEEP strengthened the collaboration between teachers and faculty members. Faculty members' views on this collaboration are as follows:

> *P1: I think there are benefits in many different ways. Firstly, participants can see how certain aspects of public policies are affecting teachers. They can also share their classroom experiences and practices with us and other teachers and this is enriching for everyone. "*

> *P2: KEEP Academy is a program working in cooperation with 13 school districts and as you can see in this program, teachers are planning professional learning for other teachers. We have other graduate programs like this where our professors are giving workshops. At the KEEP Academy, the teachers are the ones doing workshops, so KEEP is a little bit different. We also organize one-week psychology conference in which more than 100 people participate and we also teach on-line courses."*

Faculty members stated that one of the main objectives of the university is to establish collaboration and coordination among schools in the districts. Faculty members described their views on how other universities cooperate with schools for projects as the KEEP does as follows:

> *P1.I do not know. I heard that Ohio State is doing something similar to this. And they may be. I'm sure all public universities are doing similar things.*

> *P2. I don't know. Therefore, there is probably something similar at Akron and Cleveland States. You know, we want people to come here to earn graduate credit; it is what keeps the university going. Therefore, I think that Akron and Cleveland States have their own Professional Development schools, but I do not know how they operate.*

Faculty members stated that other universities like Ohio States University, might have projects like the KEEP but they are not sure how they work. In addition, they mentioned that professional development school programs like the KEEP could be in different forms across

the US universities. According to faculty members' views, because other states and districts have different professional development objectives; it is difficult to say that the KEEP may work in the same way in other states. Faculty members described the disadvantages of the KEEP for faculty members as follows:

> *P1. I think, well, I think a disadvantage is, in our case, we don't have a lot of urban districts involved. I mean, we have 1 or 2. I think it would benefit, I think it would be useful to have greater economic diversity among the school districts. So I would say that one disadvantage is the way we work; the districts that are close to us are suburban districts or rural. We have a couple rural districts. So I think it would be beneficial to include one larger urban district like Akron Public or something. More diverse school demographics..*
>
> *P2. The cons, I do not know that there are any. I think it is all, it is all good, you know.*

Faculty members stated some disadvantages of the KEEP. First, they stated that schools that involved in the KEEP were mostly from rural areas. If they were more schools from urban areas, it would create an economically diverse environment for the KEEP. Next, because teachers decide what they learn, sometimes they might have disagreements about it. Other than this, faculty members mentioned the following advantages of the KEEP:

> *P1. I think this is an advantage because the schools are a little more heterogeneous, they are all suburban schools, mostly suburban schools and similar levels of funding, they can understand each other's ways of doing things a little bit better, it's a little easier for them to relate to each other.*
>
> *P2.Well, the pros are obvious. Lots of learning, good relationships, money, it all helps the world go round, right? I think there are many advantages.*

Faculty members stated that the heterogeneous structure of the schools could be an advantage for the schools. Because the schools were in similar economic status, they could easily contact with each other. They stated that the KEEP allows teachers to establish good relationships and earn money by attending in workshops. The views of faculty members may provide evidence how the KEEP creates effective learning environment for teachers and establish a solid communication with other teachers and schools. Moreover, faculty members mentioned that the KEEP also allows faculty members to provide online mentorship for teachers and principals.

Findings Regarding the Researcher's Observations in the Application of KEEP

Data from observations indicated that the PDSs are implemented under different names in the US. PDSs in different states of the US provide mentoring in the training of pre-service teachers, establish cooperation with universities and schools and offer in-service training for teachers. In doing so, they contribute to the professional development of both teachers and teacher educators. They can also improve learning and teaching at schools through the training they provide for teachers. Professional development school is funded by Kent State University's both academically and financially and it comprises of 13 school districts since 2010. The KEEP was supported by the Marta Holden Jennigs Foundation in 2015. The foundation supports the learning and quality improvement of the teachers and the implementation of the projects yielding outcomes conducive to the development of education. In this way, PDSs make important contributions to the enhancement of learning and teaching processes and the development of schools based on mutual interaction and sharing of teachers, students and faculty members. The KEEP seems to be one of the best examples of professional development schools. The motivation and enthusiasm of the faculty members in accomplishing the program objectives positively affect the teachers who participated in the program voluntarily. Such programs also motivate teachers because with their improving qualifications, their wages also increase. The presentations organized in the program are attended by faculty members, teachers from primary, secondary and high schools, school principals and district education representatives, students and parents. Teachers and faculty members meet to hold discussions and workshops on previously determined topics. In addition, teachers share their professional experiences with other teachers so that they can benefit from others' experiences. Furthermore, discussions are held

among teachers about how they teach particular subjects, question asking techniques, learning and teaching goals, formative evaluation, effective feedback, special education, inquiry-based learning, project-based learning, constructivist evaluation, social and scientific studies and professional learning societies. While classroom practices are usually discussed during first sessions, second sessions are usually allocated for the discussion of different topics selected by the participants. Teachers are also asked to demonstrate examples of their good practices. During the discussions, everyone is equal. Presentations in the last session are made in the form of a symposium. The symposium takes two full days. Here teachers also present their work, either individually or in a group, in their schools by using visuals. After these presentations, discussions are conducted with the participation of teachers, students, parents and school directors. Thus, what has been learned in the KEEP can be transferred to school environment. In this way, some of the studies applied by teacher in their classes are;

Writing Center: it is conducted by a team consisted of 6th and 7th grade teachers and students, coaches from eight grade and library assistants. In this way, students can improve their writing skills by using technology, peer collaboration, self-evaluation and editing.

The power of place value in first grade: The first grade students are taught the concepts of numbers and additions by using cards, wooden bars, and beads. In this way, students can touch the learning materials and be involved in creative learning.

From observations it can be said that the KEEP program has been implemented since 2010 with the participation of teachers and principals from 13 school districts. It was observed that the KEEP Academy supports all the works done to enhance the quality in education. People participating in the program have to participate in meetings, to make presentations, to carry good practices into their classes, and to send the studies they have made to the evaluation committee at the end of the semester. In addition, participants must attend at least 3 meetings in order to be able to receive a certificate. In return, they can borrow money to attend master and doctorate courses free of charge.

Thus, the professional development program, which is carried out with the cooperation of Kent State University and 13 regional schools, enables the teachers to participate in every step of the application from planning to implementation, to learn with the university faculty members and other teachers, to learn on their own and to transfer good practices into their classes. As it is obvious from the statements of the participating teachers, the KEEP is seen to be successful in providing self-development opportunities for teachers. Motivation and enthusiasm of the course instructors and better prospects to be attained when the course is completed contribute to the success of the program. The opinions of the teachers about the implementation of KEEP support the observations of the researcher and the views of the faculty members.

The Views of Teachers Who Participated in the Application of KEEP

The views of the teachers were given in Table 2 below.

Table 2. The Views of the Teachers Being Involved in Professional Development Schools (PDS) Seminars about the Benefits of PDS

Codes	f
Learning from each other	14
Interaction between teacher and lecturers	11
Learning new methods, strategies, and techniques.	8
Sharing practices of classroom inside	9
Inappropriate time related to seminars (negative side of the views)	6

Given the Table 2 above, the teachers mostly mentioned that they have positive attitudes towards the KEEP. They also stated some negative aspects of the KEEP relevant to inappropriate time of the seminars. Some quotations from the teachers' views were presented below.

T4. "Learning from each other and building partnerships are wonderful. This can be the opportunity for teachers to make presentations to their colleagues. Teachers may find trying new things inspirational when taught by peers and not experts. The only drawback is that it is difficult for them to maintain their network during the school year."

T7. "A big advantage is that it provides time for local professionals to meet and collaborate, alongside the KSU instructors. This kind of collaboration is what helps teachers learn and grow in their field. I don't see any disadvantages of the KEEP."

T11. "The advantages are mostly centered around the opportunity to interact with other highly motivated professionals and learning new techniques. Disadvantages are mostly of a time related nature. Finding time to create and go through meaningful PD can be difficult."

The teachers stated that the most positive aspect of the KEEP is the cooperation created between universities and schools. They mentioned that they found good opportunities to explore different teaching techniques and to put them into practice. Earning credit that the teachers can use for taking courses at the university is one of things that make the program appealing to the teachers. Some teacher mentioned some negative aspects of the KEEP. Less communication in online, less time spent for some important points, and giving all courses simultaneously might cause them to miss other courses that they would like to take are the negative aspects of the KEEP. When the KEEP program is examined, it can be said that the meeting held in summer times (June and August) may meet teachers' needs. When the teachers were asked, "why this program should be continued", all of the teachers stated that the implementation of the KEEP should continue and be continuous. The views of the teachers were presented in Table 3 below.

Table 3. *The views of the teachers concerning the effectiveness of the program*

Codes	**f**
Importance of continuity of program	14
Specialty and desire of lecturers	8
Improving professional skills	5
Economic	5
Teacher interaction	14
Continuity of professional development	11
Learning topics needed	6
Renewing undergraduate process	4

The analyses showed that teachers believed that the program has profound impacts on the teachers and should be continue. Also, teachers told that the program provides a variety of professional development possibilities for teachers. Some quotations from the teacher views were presented below:

T6. "It is extremely encouraging to have refined educators seeking our opinions on professional development to help colleagues grow in their field.

T8. They really appreciate learning from expert peers, and are enthusiastic and empowered by the fact that the conference is created among themselves. No cost is always enticing as well! KSU faculty often help to keep a focus when conversations veer off content/ purpose, and provide insight for post- K-12 needs."

T12. "Teachers within the KEEP program continue to do PD because the platform provides teacher to teacher interactions between different schools. This provides various perspectives to be shared that otherwise would not be available if you were to stay within your own district. The faculty from KSU provide the platform for this teacher-to-teacher interaction. Additional resources and connections that we, as teachers, may not have access. As well as professional thoughts and opinions in their respective field that may be above and beyond what the current teachers know."

T15. "First and foremost, continual professional development is required for license renewal. Teachers within the KEEP program are able to pursue topics of interest and topics where they need further assistance. It's incredibly helpful for the opportunity to participate in a program where a number of needs are met."

The teachers stated that they believed the KEEP should continue in near future. They mentioned that they were able to see how passionate the faculty members were in the KEEP to teach the teachers about teaching. They also stated that the KEEP is a well-organized program that brought teachers from different schools together. Working with other teachers allowed them to see different perspectives in teaching. They also stated that they were able to learn from faculty members from university and in turn faculty members learn from them. They mentioned that they had opportunities to refresh what they had learned from college and to find new information in teaching and learning. Another positive aspect of the KEEP is that earning credits for taking graduate courses at university makes them motivated to study in graduate schools; otherwise, they had to pay for fee for graduate schools. Attending in the KEEP, they stated that their confidence to teach was increased.

The success of professional development schools depends on the quality of communication amongst the university, schools, teachers and students. Teachers' views on the collaboration amongst Kent State University, teachers and schools are as follows.

Table 4. *The views of the teachers participating in professional development schools seminars*

Codes	**f**
Providing equipment and material	6
Support of leadership management	4
Research practices in classrooms	7
Master's and PhD	4
Project collaborations with university	6
Summer schools	9
Mentoring for preservice teachers	15

As it is seen in Table 4, the teachers stated that by making collaborations with Kent State University (KEEP) named professional development school system provide many opportunities to them including doing research in classrooms, learning leadership management, doing master's and PhD, summer schools, making collaborations with university, mentoring for pre-service teachers, and equipment and material. Some quotations from the teachers' views were presented below:

> *T7. "I collaborate daily with my team (all 7th grade teachers) and my subject partner. We plan common lessons and assessments."*
>
> *T9."Science - Biology has borrowed equipment from KSU to use in class. Conceptual Chemistry - summer PD class offered by KSU for grades 6-9 for teachers. Free equipment/supplies are given away during the course as well."*
>
> *T14. "I have collaborated with KSU personnel with the teaching of mathematics within my classroom. I conducted an inquiry project on how to use conceptual discussion and guided math as a vehicle to further the development of* my students*."*

The teachers' views regarding coaching and mentoring processes were showed in Table 5.

Table 5. *The views of the teachers about coaching and mentoring*

Codes	**f**
Program is functional	12
Interaction between mentor and trainee	10
Integration into profession	13
Sharing classroom experience and practices	9
Enabling observation possibility for classroom practices	7
Doing more practices	14

Considering Table 4, the teachers stated collaboration patterns between university and the schools including, KEEP, the training of pre-service teachers, coaches and mentorship, practices of professional development, research implications at the classrooms, providing equipment for science experiments and collaboration on projects exist. The most important collaboration patterns the teachers stated were the training of pre-service teachers, and coaches and mentorship.

It can be asserted that in PDSs the cooperation of the teacher educators, the teachers and the prospective teachers is as effective as the in-service training of the teachers in the applications of the pre-service teacher education. This cooperation has shown that teachers generally have a positive opinion on the effectiveness of the mentoring and coaching system, which is based on the learning of students from experienced teachers and the guidance of teachers and university lecturers. They stated their thoughts as followings:

> *T2. "Ongoing, meaningful observation and feedback is definitely more productive than single events. The challenge is timing/ scheduling."*
>
> *T6. "If set up correctly with specific guidelines, mentoring is very functional. Pros: Shared experience - If the mentor is in the same field as the pupil and has time to share his/her experiences I feel this can benefit the pupil. Cons - Some mentors are not willing to share all their tricks or resources with the pupil."*
>
> *T9. "The implementation is functional, but could absolutely be better. The biggest problem is the continual changes that both new teachers and mentors must keep up with."*
>
> *T17. "I do not see cons to mentoring. Unless someone is incompetent and then mentoring someone else. Otherwise, mentoring is essential to maintaining quality teachers and further advancing the teaching profession. When done right, all involved benefit from mentoring experiences."*

Table 6. The views of the teachers the practices in the schools

Codes	**f**
A lack of knowledge about practice	4
Enough time	10
Increasing practice	12
Interaction among lecturer, mentor, and trainee	9

In general, teachers said that 'mentoring and coaching system were a useful application in understanding teachers' development. In particular, to train qualified teachers and to integrate pre-service teachers into school system, it is important that experienced teachers share their classroom experiences and practices with pre-service teachers. With mentoring, pre-service teachers can get familiar with the actual classroom environment, learn how to help student learn, try new things with confidence and get feedback about what they do. They stated that trust and equality are important elements in mentoring and the KEEP makes them feel trust and equality in mentoring. It can be said that this direction is very important in terms of the success of the system of choosing mentors who are professionals.

The following are teachers' opinions about how much time pre-service teachers at Kent State University spend for training in the KEEP, whether or not this training is enough for teacher education and what kind of relationships are established between faculty and teachers in this process:

> *T9. "Given the time we had, we were able to accomplish quite a bit. The communication between my pre-service teacher's advisor, my pre-service teacher and me was excellent. We often met as a group, which allowed excellent conversations to occur as the year progressed."*
>
> *T11. "It is generally a 16-week semester, though students are typically assigned for about 12 weeks. During that time, there are at least two evaluations to be completed for them by both the cooperating teacher and a supervisor from the university. The pre-service teacher, cooperating teacher, and university supervisor must all have good rapport and be willing to work together and speak candidly, when needed, to ensure success."*

While some teachers participating in KEEP indicated that they did not have knowledge about implementation, some teachers stated that during the four-year period they spend one semester for studying, one semester for observing in classrooms, one semester for studying and observing and the last semester for working full-time at schools. It has been stated that the students were gathered at least twice with their counselor and teachers to discuss together. In addition, teacher stated that given time for practicing would be enough but

because they did not do practicing during all time they suggested that more time is needed for practicing. With this respect, teacher training can be seen as a reflection of the pre-service teachers' practice in which teachers, students, and university faculty members collaborate. It can be said that the effectiveness of PDSs includes the possibilities and conditions in which teacher candidates are able to provide significant contributions in the development and well-being of the students as well as teachers and faculty members have developed.

Discussion, Conclusion and Recommendations

The findings of this study indicate that faculty members believed that KEEP, as an application of PDSs, was different from the other teacher training done by calling an expert. In addition, faculty members stated that this practice involves a process of learning based on mutual interaction, in which teachers make their decisions about what they want to learn and how they want to learn by bringing teachers together for professional development and learning. Moreover, the faculty members stated that the application of professional development schools is aimed to support teachers' pre- and post-service education. Faculty members stated that KEEP provided the development of teachers as well as affecting faculty members' views as they observed teachers' instructional processes of teaching. They said that although they might have different names, almost every state in the US has similar applications. Though teachers think that absence of urban districts from which teachers participate in the program as a disadvantage, the faculty members emphasized that because rural area schools are similar in economic conditions, it becomes easier for teachers to understand each other and to communicate.

According to the observations of the researcher, the applications of the PDSs include an active learning process in which the teachers carry out their own learning in cooperation with the universities and other schools, unlike the seminars and conferences that are made by inviting a specialist from the field. In this process, teachers take active roles as researchers, listeners and participants. University faculty members' efforts, coordination and effective communication skills play an important role in the success of the process. Financial support for teachers in the United States, higher wages for teachers who hold a master and doctoral degree and granting free credits for teachers can be important sources of motivation for teachers to improve themselves and participate in trainings. The professional development applications conducted in cooperation with Kent State University and school districts aim to create better teachers and accordingly better education and instruction for students (Bolam, 1993; Clark, 1999; Darling-Hammond, 1994; Darling Hammond and Cobb, 1995; Hallinan ve Khmelkov, 2001; Holmes Grup, 1990; Mizell, 2010). Sharing of good practices are conducive to the development of education in all the districts. The faculty members' overwhelming efforts as well as teachers' willingness and desire for learning also contributed to the success of the program.

Teachers stated that the most important benefit of KEEP is the cooperation created between the university and schools and among schools. Through this cooperation, they think that they have gained different perspectives of the learning-teaching process, that have started new quests and they professional developed by seeing the practices of other teachers. As a result of participation in this program, their motivation to learn and improve increased. This indicates that fostering teachers' professional development can play an important role in increasing their motivation.

The teachers are of the opinion that pre-service teachers can be trained better in cooperation with a university. Particularly, mentors' sharing their class experiences and practices with pre-service teachers is very useful. In this respect, it can be said that the interaction between the mentor teacher, the student and the faculty member makes significant contributions to the professional development of pre-service teachers.

When the results of the research are evaluated in general, it can be said that the practice of PDSs implemented as KEEP at Kent State University is an effective professional development learning activity which is based on school-university cooperation in which faculty members learns from teachers and in turn teachers learn from faculty members. This

sort of in-service training can offer significant contributions to teacher education in Turkey. There are important problems in Turkey regarding the effectiveness of teachers' in-service training. These problems include lack of cooperation between the Ministry of National Education in Turkey and higher education institutions, inadequate in-service training courses and participation of a limited number of teachers (Gökdere and Çepni, 2004; Kaya and Kartallıoğlu, 2010; TED, 2009).

Research has reported that there are important problems observed in Turkey in terms of in-service training programs and professional development programs offered to teachers. Some problems that research has reported include that the content and scope of the in-service training activities are not comprehensive enough to meet the needs, teachers' needs are not taken into account when in-service training programs are prepared, the timing is not appropriate, the physical and technological facilities are insufficient, and in-service training activities are inadequate. In addition, research reported the fact that in-service training activities were carried out by trainers not specialized in the field and giving more emphasis on theoretical knowledge and less emphasis on practical implications (Aydoğan, 2002; Uçar 2005; Durmuş, 2003; Demirkol, 2004; Gökdere and Çepni, 2004; Özen, 2006). Therefore, despite in-service training and seminars given to teachers, teachers seemed to have a lack of understanding of their professional subject area (Önen, Mertoğlu, Saka & Gürdal, 2009; Ulubey, Yıldırım & Aykaç, 2016).

The quality of in-service teacher training program can become more productive by a well-prepared training program in line with the needs of the teachers, as well as active participation of the teachers in the learning process in cooperation with each other. In the literature, it is reported that in-service training programs including active learning methods and techniques; when enough time and resources are allocated and teachers work in cooperation, would be more effective (Çakıroğlu, Doğan, Çavuş, Bilican and Arslan, 2011; İlgan, 2013). On the other hand, the application of the professional development school in America includes the active learning process, in which the teachers actively participate in the learning process and learn in cooperation with their colleagues. This aspect differs significantly from the in-service training activities usually carried out by an expert in Turkey. Although the School-Based Professional Development (SBPD) program launched in 2007 in Turkey shares theoretical similarities with PDSs in the US, due to the lack of sufficient cooperation between schools, not cooperation with university, and the lack of good planning and coordination, it is very difficult to say that it is successful. The reason behind this can be the fact that teachers take all responsibility in the process of planning and implementation of the SBPD and it does not have any rewarding system for teachers. For instance, Kaya and Kartallıoglu (2010) reported that the deficiencies of the SBPD include too much work for documentation, teachers' resistance to professional development, and no financial benefit and rewards for teachers.

In Turkey, there is lack of cooperation between universities and schools in the training of pre-service teachers. If such cooperation can be established as through PDSs in the US, then teachers and pre-service teachers can develop better in Turkey. Thus, PDSs in the US can be taken as a role model for the development of pre-service teacher education in Turkey. In this connection following suggestions can be made:

- In Turkey, it can be possible to motivate teachers to pursue master and doctorate degrees by increasing their wages.
- Similar to the professional development department in the US, a department that conducts planning, research and implementation of in-service teacher training at universities can be established.
- The material and moral rewarding system can be used to encourage teachers to participate in-service trainings.
- In the seminars organized in June and September, teachers can gather at the regional schools with academicians from universities to discuss. Successful work and best practices can be rewarded.

- Teachers selected from different fields and branches can be sent abroad for a week or 15 days to share their practices and observations with teachers in their own regions and schools.

- Graduate programs can be opened for teachers as evening classes or summer schools.

- Pre-service teachers can be sent to schools in their second year at university, university-affiliated schools can be created for teaching practicum so that students can put their theoretical knowledge into practice.

- The fact that teachers who will be employed as mentors in schools should be selected from among experienced teachers or teachers holding a master or doctoral degree and they should be given mentorship training might be helpful in terms of training the trainee students.

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YAZIM KURALLARI

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Makale içinde farklı düzeylerde başlıklar kullanılabilir. Başlıklar aşağıdaki şekilde biçimlendirilmelidir:

Başlık Düzeyi	Biçim
1	**Ortalı, Kalın, Her Sözcüğün İlk Harfi Büyük**
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*

Şekiller
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.

Tablolar
Tablo numarası ve tablo yazısı, tablonun üstünde ve sola dayalı olarak yazılmalı; içeriği tablo numarasının yanında başlık olarak açıklanmalıdır. Tablo adı, italik ve ilk harfi büyük harfle, diğerleri küçük harflerle yazılmalıdır. Tabloların sağına ya da soluna herhangi bir yazı yazılmamalıdır.

Tablolar sadece Word programındaki Tablo menüsünden faydalanılarak yapılmalıdır. Tablo içeriği 9 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 soyadı 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.

Daha fazla bilgi için: http://citationonline.net/CitationHelp/csg04-manuscripts-apa.htm#references

MANUSCRIPT GUIDELINES

General Rules
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 11; 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. 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.