Elementary Education Online, 2018; 17(3): ou. 1-22
İlköğretim Online, 2018; 17(3): ip. 1-22. [Online]: http://ilkogretim-online.org.tr
doi

Reviewing the Implementation of Life Sciences Curriculum in Turkey Using Elicitation Techniques

Türkiye'de Hayat Bilgisi Programının Uygulanışının Söyletim Teknikleriyle İncelenmesi

Pervin Oya Taneri, *Çankırı Karatekin University,* peroya06@gmail.com
Cennet Engin-Demir, *Middle East Technical University, cennet@metu.edu.tr*

Abstract. The aims of this case study were (1) to investigate the general characteristics of the Life Sciences Curriculum (LSC); (2) to examine how the LSC is implemented in a public primary school from the perspectives of teachers, students and administrators; and (3) to identify whether implementation of the curriculum was in line with the principles of constructivist pedagogy. The study participants consisted of the school administrator, 2 co-administrators, 4 classroom teachers and 87 students from second- and third-grade classrooms chosen from a primary school in one of the districts of Ankara, Turkey. Data was collected through document analysis, classroom observations, semi-structured interviews with administrators, stimulated-recall interviews with teachers, and creative drama activities with students. Findings indicated that LSC was prepared consistent with constructivist pedagogy. Explicitly, multiple intelligences theory and contemporary teaching-learning approaches were kept in view in the design of the LSC, and the curriculum composed of thematic units that focuses on developing skills like critical thinking, creative thinking and problem-solving.

Keywords: Curriculum Evaluation, Life Sciences Curriculum, Constructivist Pedagogy, Implementation Evaluation, Elicitation Techniques.

Öz. Bu durum çalışmasının amaçları; (1) Hayat Bilgisi Eğitim Programı'nın (HBEP) genel özelliklerini incelemek; (2) bir kamu ilkokulunda HBEP'nın nasıl uygulandığını öğretmen, öğrenci ve yöneticilerin bakış açıları yoluyla incelemek ve (3) programın uygulanışının yapılandırmacı pedagoji ilkelerine uygun olup olmadığını tespit etmektir. Çalışmanın katılımcıları Ankara'nın bir ilçesindeki ilkokuldan seçilen, 1 okul müdürü, 2 müdür yardımcısı, 4 sınıf öğretmeni ve 2. sınıf ve 3. Sınıflardan seçilen 87 öğrencidir. Veriler, doküman analizi, sınıf gözlemleri, yöneticilerle yarı-yapılandırılmış görüşmeler, öğretmenlerle uyarılmış geri çağırma görüşmeleri ve öğrencilerle yaratıcı drama etkinlikleri yoluyla toplanmıştır. Bulgular HBEP'nın yapılandırmacı pedagojiyle tutarlı bir şekilde hazırlandığını göstermektedir. HBEP'nın tasarımında eleştirel düşünme, yaratıcı düşünme ve problem çözme gibi becerilerin geliştirilmesine odaklanan tematik ünitelerden oluşan programda, çoklu zekâ kuramı ve çağdaş öğretim-öğrenme yaklaşımları göz önüne alınmıştır.

Anahtar Sözcükler: Program Değerlendirme, Hayat Bilgisi Programı, Yapılandırmacı Pedagoji, Uygulama Değerlendirmesi, Söyletim Teknikleri.

Received: 29.01.2018 Accepted: 23.06.2018 Published: 31.07.2018

ÖZET

Giriş

Bilim, teknoloji, ekonomi ve sosyal alanlarda yaşanan hızlı ve beklenmedik değişimler, herhangi bir konuda mutlak ve/veya evrensel bilginin elde edilmesini her geçen gün daha zor hale getirmektedir. Günümüzün teknolojiye doymuş insanları bile hızla gelişen teknolojiyi takip etmekte zorlanmaktadır. Benzer şekilde, dünyada yaşanan anlaşmazlıklar, savaşlar, çatışmalar, eşitsizlikler ve bunların sonucunda artan göç hareketleri toplumsal yaşamı eskisinden farklı hale getirmektedir. Artık, teknoloji ve fen okuryazarlığının yanı sıra çeşitliliği anlamak, farklı kültürlere saygı ve hoşgörü de 21. yüzyıl becerileri arasında yer almaktadır. Bu nedenle, bugünün eğitimcilerinin temel amacı, ortaya çıkan bu yeni durumlarla başa çıkacak şekilde eğitim programlarının nasıl yeniden şekillendirilebileceği sorusuna cevap aramak olmalıdır.

Toplumun ihtiyaç duyduğu becerilere sahip bir iş gücüne sahip olmak, mevcut bilgi ve iletişim teknolojileri ile uyumlu, ulusal ve uluslararası sorunlara çözüm üreten öğrenci merkezli eğitim programı gerektirir (Burris & Garton, 2006; Demiralay & Karadeniz, 2008; Ersoy & Kaya, 2008; Yıldırım, 2006). Araştırmacılar, eğitim programları geliştirilirken öğrencilerin inisiyatif kullanma ve eleştirel düşünme yeteneğini geliştirmeyi, uygun etkinlikler ve projeler yoluyla öğrenci iş birliğini ve katılımını arttırmayı sağlayan disiplinler arası öğretimi benimseyen ve tematik yaklaşımlara dayalı modelleri önermektedir (Flouris & Pasias, 2003; Williams & Charlesb, 2008). Türkiye'deki eğitim programlarının yeniden yapılandırılmasında da tematik bir yaklaşım benimsenerek, derinlemesine öğrenmeyi gerçekleştirmeyi amaçlayan eğitim stratejileri, bütünselleştirilmiş değerlendirme teknikleri ve anlamlı bir değerlendirme programı yer almaktadır.

Eğitim programı değişikliklerinin ve uygulanışının etkili olabilmesi, öğretmenlerin yazılı programı uygulamaya geçirmesini; yeni öğretim yaklaşımlarını ve tekniklerini kabul etmelerini ve yenilenen eğitim programına elverişli sınıf ortamlarını düzenlemelerini gerektirir. Yeni öğretim yaklaşımlarının tüm eğitim bileşenleri tarafından benimsenmesi gereklidir. Bu nedenle bu çalışma, öğretmenler, öğrenciler ve okul yöneticilerinin bakış açılarından bir ilkokulda HBEP'nın uygulanışını incelemek üzere tasarlanmıştır. Bu çalışmada eğitim programın bakış açısının uygulamaya ne derece yansıdığı ve programının uygulanışının yapılandırmacı pedagoji ilkelerine ne derece uygun olduğu araştırılmıştır. İzleyen araştırma soruları bu çalışmaya ışık tutmuştur: (1) HBEP'nın genel özellikleri nelerdir? (2) Okul yöneticileri, öğretmenler ve öğrenciler, programın bileşenlerinin (yani öğretmenlerin, öğrencilerin ve velilerin) rolleri, temel öğretim yöntemleri, öğretim materyalleri ve ölçme değerlendirme teknikleri bakımından programın uygulanışını nasıl görüyorlar? (3) Program, yapılandırmacı pedagoji tarafından sunulan özel önerilerle uyumlu bir şekilde uygulanmakta mıdır?

Yöntem

Bu çalışmada, nitel durum incelemesi araştırma tasarımı benimsenmiştir. Katılımcıların seçiminde kolay ulaşılabilir, bilgi odaklı örnekleme yöntemi kullanılmıştır. Çalışmaya Ankara'nın bir ilçesindeki ilkokuldan seçilen, 1 okul müdürü, 2 müdür yardımcısı, 4 sınıf öğretmeni ve 2. sınıf ve 3. sınıflardan 87 öğrenci katılmıştır.

Veri güvenilirliğini artırmak için veriler, belge incelemesi ve sınıf gözlemlerinin yanı sıra farklı söyletim teknikleri yoluyla toplanmıştır. Söyletim teknikleri, katılımcıların kendi düşünceleri hakkında konuşmalarını sağlamak için görsel, sözel veya yazılı uyarıcılar kullanılmasını gerektirdiği için (Barton, 2015), bu çalışmada yöneticilerle yarı-yapılandırılmış görüşmeler, öğretmenlerle uyarılmış geri çağırma görüşmeleri ve öğrencilerle yaratıcı drama etkinlikleri yapılmıştır. Veri toplama ve veri analizleri araştırma boyunca eşzamanlı olarak gerçekleştirilmiştir. Veriler, içerik analizi yöntemi kullanılarak tematik olarak sınıflandırılmıştır. Veri geçerliliğini artırmak için katılımcı doğrulaması, olumsuz durum, benzersiz, ilginç ve alternatif açıklamaların aranması, veri çeşitleme, çoklu kodlama, bir veri tabanı veya dosyada

yapılan değişikliklerin kayıt edilmesi, veri toplama, veri analizi ve verilerin yorumlanması sürecinin ayrıntılarıyla açıklanması ve düşünümsellik (yansıma özelliği) teknikleri kullanılmıştır (Holloway & Wheeler, 2010; Guba & Lincoln, 1994).

Bulgular

Doküman analizine göre, HBEP öğrencileri hayata hazırlamayı, onlara doğal ve sosyal bilimlerle ilgili temel bilgileri öğretmeyi amaçlamaktadır. Program, sosyal bilimler, vatandaşlık, çevre eğitimi, doğa bilimleri ve coğrafya disiplinlerini bütünleştirerek çocuğun bireysel yaşam deneyimlerinin biyolojik, psikolojik, sosyal ve kültürel yönlerini kapsayan, bütüncül bir yaklaşım benimsemektedir (MEB, 2005). İçerik ve öğrenme alanlarının düzenlenmesinde tematik bir yaklaşımı izlenmiştir. Eğitim programındaki kazanımların bazılarının yapılandırmacı bir yaklaşıma uygun olmadığı ve üst düzey düşünme becerilerinin HBEP'nın öğrenme çıktılarına dahil edilmediği görülmüştür. Yazılı program öğrenci-merkezli yaklaşımı önerdiği halde uygulanan program, konu-merkezli yaklaşımın bazı özelliklerini sergilemektedir.

Öğretmenler ve yöneticiler HBEP'nda öğretmenin rehberlik rolünü vurguladıkları halde bulgular öğretmenlerin, öğrenciye bilgi aktarma rolünden rehberlik etme rolüne geçemediklerini ortaya koymuştur. Anlatımın dersin temel öğretim yöntemi olmayı sürdürdüğü ve bunun sonucunda öğrencilerin katılımının halen sınırlı olduğu, derslerde öğrencilerin kendi sorularını oluşturmasına veya kendi sorularını paylaşmasına nadiren izin verildiği, öğretmenlerin yaratıcı ve eleştirel düşünme, problem çözme gibi üst düzey becerilerin geliştirilmesine elverişli olmayan dersler işledikleri, yalnızca anlatım ve soru-cevap tekniklerini kullandıkları gözlenmiştir. Öğretim materyalleri ders kitapları, çalışma kitapları ve karatahta gibi ikincil materyallerle sınırlıdır. Öğretmenler, otantik değerlendirme yöntemlerinin yararlı olduğunu düşünseler de geleneksel değerlendirme yöntemlerini daha sık kullanmaktadır. Veliler ev ödevlerinde yardımcı olma dışında genellikle eğitimde yer almamaktadır.

Tartışma ve Sonuç

Bulgular alan yazınla da uyumlu olarak resmi HBEP'nın öğrencinin ihtiyaçlarını, ilgi alanlarını ve deneyimlerini eğitim programının merkezine koyarak öğrenci merkezli bir yaklaşım benimsediğini göstermiştir (Akınoğlu, 2008; Babadoğan ve Olkun, 2006). Resmi program yapılandırmacı yaklaşımı benimseyerek hazırlanmasına rağmen, programın uygulanmasında, özellikle alternatif ölçme ve değerlendirme yaklaşımları ile farklılaşan öğretim yöntemlerinin benimsenmesinde sorunlar yaşanmaktadır. Uygulanan eğitim programı, öğrenci merkezli yaklaşımdan ziyade konu merkezli yaklaşımın bazı özelliklerini taşımaktadır. Bulgular, öğretmenlerin yeni öğretim yaklaşımlarını benimseme konusunda sorun yaşadıklarını; ders kitaplarını ve program kılavuzunu takip ettiklerini ve doğrudan öğretim yöntemlerini kullandıklarını ortaya koymuştur. Parkerson ve Parkerson (2008)'a göre, bu tür yaklaşımlar konu merkezli programın özelliğidir. Bunun olası sebepleri, sınıf alanının yetersiz olması ve / veya esnek olmayan sıra-masalar; öğretmenlerin öğretim yöntemleri ve otantik ölçme-değerlendirme teknikleri konusunda yeterli bilgi sahibi olmamaları ve eğitim bileşenlerinin yeni programa hazırlıksız olması sayılabilir.

Bulgular öğrencilerin sınıf davranışlarının resmi programda öngörüldüğü gibi yapılandırmacı pedagoji tavsiyeleri ile uyuşmadığını ortaya koymuştur. Öğretmenlerin ağırlıklı olarak anlatım yöntemini kullanması öğrencilerin dersleri pasif (edilgen) biçimde dinlemelerini zorunlu kılar. Oturmak hem yorucudur hem de öğrencileri pasif ve etkisiz bireylere dönüştürür. Bu sorunu çözmek için eğitim bileşenlerinin özellikle küçük yaştaki öğrencilerin bazı temel özellikleri hakkında—yani kısa dikkat süreleri, uzun süre hareketsiz oturamama, fiziksel aktivite bulunma ve akran onayı ihtiyacı, cesur ve maceracı davranışlarda bulunmaya hazır olma — bilgilendirilmeleri gerekir (Feigelman, 2007; Yıldırım, Güneri ve Sümer, 2002).

Rol tanımlama, çatışmaları önler ve programın uygulanmasında temel gereksinimlerin göz ardı edilmemesini sağlar. Bu nedenle velilerin eğitimdeki rolü programın uygulanışının

değerlendirilmesinde ele alınan bir diğer önemli konudur. Bulgulara göre, velilerin eğitim programına katılımı düşüktür ve sadece ev ödevlerine yardım etmekle sınırlıdır. Sınırlı veli katılımının yapılandırmacı yaklaşımın kilit unsurları olan öğrencilerin kendi öğrenmelerine aktif olarak katılmalarını ve sorumluluk almalarını önleyebileceği öngörülmektedir. Veli katılımını artırmak için okul yöneticileri ve öğretmenler, öncelikle velilerin neden eğitim öğretim etkinliklerine katılmayı istemediğini anlamalı; veli katkılarına saygı göstererek ve velilerin eğitim programının felsefesini ve gereksinimlerini anlamalarına yardımcı olarak, velilerin eğitime etkin bir biçimde katılmaya teşvik etmelidir. Öğretmenler velilere ödevin amacını açıklayan mektuplar yazma şeklinde ulaşabilir ve velilere nasıl ve hangi alanlarda katkıda bulunabileceklerini sorabilir; ayrıca sorun yaşayan ya da düşük notlar alan öğrencilerin velilerinin görüşünü yansıtan haftalık ilerleme raporlarını isteyebilir.

Resmi programda, yazılı sınavların yanı sıra performans değerlendirmeleri, ürün seçki dosyası gibi otantik değerlendirme yöntemleri gibi yapılandırmacı yaklaşıma uygun değerlendirme yöntemleri önerilmiştir. Ancak, öğretmenler hala biçimlendirici değerlendirme yerine sonuç değerlendirme üzerinde durmaktadırlar. Bu bakımdan, üst düzey düşünme becerilerini ölçen, öğrencilerin kendilerini kendi seçtikleri biçimde ifade etmelerine olanak sağlayan, tamamlayıcı ve kapsayıcı ölçme ve değerlendirme yöntemlerini kullanma konusunda öğretmenlere destek eğitimler ve yardımcı materyaller sağlanabilir.

Bireylerin potansiyellerini ortaya çıkarmalarına yardımcı olacağı gerekçesiyle yenilen ve değiştirilen eğitim programlarının, tasarlandığı şekilde uygulamaya konması için eğitim bileşenlerinin yeterli ve verimli bir biçimde bilgilendirilmesi sağlanmalıdır. Öğretmenlerin, kuramsal bilgi aktarımına dayalı geleneksel öğretim yaklaşımlarından uzaklaşarak, öğretimi öğrenci merkezli ve araştırma-temelli bir niteliğe kavuşturan yaklaşımlar konusundaki bilgi eksikliklerinin hizmet-içi eğitimlerle sürekli olarak tamamlanmasına çaba harcanmalıdır. Ayrıca, hizmet-öncesi eğitimde öğretmen adaylarına eğitim felsefeleri ve bu felsefelerin eğitim programına yansımaları konularında da eğitim verilmesi faydalı olacaktır. Öğretmenlerin eğitim programlarında yapılan değişiklik ve düzenlemelere uyum sağlayabilmeleri ve eğitim programının uygulanması sırasında ortaya çıkan sorunlara çözüm yolları üretebilmeleri için hem öğretmen yetiştirme programlarına hem de hizmet-içi eğitim programlarına eylem araştırması ile ilgili konuların eklenmesine özen gösterilmelidir.

INTRODUCTION

Rapid and unexpected changes in science, technology, economics and social fields make it increasingly difficult to acquire absolute and / or universal knowledge in any given field. Even today's technologically saturated people are having difficulties in following up the rapidly developing technology. Similarly, disagreements, wars, conflicts, inequalities and increasing migration movements in the world make social life different from the old. Now, understanding diversity, respect for different cultures and tolerance, as well as technology and science literacy, are among the skills of the 21st century. For this reason, the main purpose of today's educators should be to seek answers to the question of how to reshape their educational programs to deal with these emerging new situations.

Endowing a work force with the skills needed by society requires student-centered curricula that are in harmony with existing information and communication technologies and that produce solutions to national and international problems (Burris & Garton, 2006; Demiralay & Karadeniz, 2008; Ersoy & Kaya, 2008; Yıldırım, 2006). Many researchers have recommended developing new curricula based on thematic approaches that employ interdisciplinary teaching in order to promote student growth, develop initiative and critical thinking and increase student collaboration and effectiveness through appropriate activities and projects (Flouris & Pasias, 2003; Williams & Charlesb, 2008).

Similar to reform movements in other countries, the 2005 educational reform in Turkey takes a fundamentally new direction, employing a thematic approach to content areas, instructional strategies aiming at promoting deep learning, integrated assessment techniques and a meaningful evaluation program. The new curricula were prepared in line with the basic principles of constructivism, such as active learning and Gardner's Multiple Intelligences Theory, and emphasize authentic assessment methods as part of the teaching and learning process (Akınoğlu, 2008; Temizkan & Bağcı, 2008; Wort, 2007). The Life Sciences Curriculum (LSC) is designed as part of a larger scale curriculum reform initiative in Turkey. In order to increase the quality of schooling and to trace supreme worldwide standards of education implemented in Europe, North America and East Asia, the LSC was changed under the revision of primary school curricula with the mathematics, Turkish, science, and social studies curricula in 2003. The recent LSC was developed to improve the weaknesses and restrictions of the old curriculum (Koç, Işıksal & Bulut, 2007). The vision of recent LSC is to provide learning environments that help students to share their ideas and actively participate in and have responsibility of their own learning, to produce relationship among different disciplines, and to utilize different teaching methods within the enriched environment (Ministry of National Education [MONE], 2005).

Humanities and social studies courses today tend to integrate multiple disciplines, including art, culture, geography, history, environmental issues, social constructs, communication and citizenship. Turkey's LSC has been designed in line with this approach (Sönmez, 1996). Although the LSC is assumed to be suitable for all schools nationwide, teachers implementing the curriculum may face a variety of difficulties as they try to apply it in their own particular classroom. Studies examining implementation of Turkey's the latest curricula at both the elementary and secondary-school levels have identified a variety of specific teacher complaints relevant to their own subject-area curriculum. These include insufficient time to cover all the units required in a semester; unit sequencing that actually prevents students from developing an understanding of important ideas and concepts; lack of the materials required to implement the curriculum; and lack of knowledge regarding the assessment procedures specified by the curriculum (Altınyelken, 2010; Birgin, Tutak & Türkdoğan, 2009; Gökçek, 2009; Grossman, Önkol & Sands, 2007; Haser & Star, 2009; Kırkgöz, 2008). The numerous disparate sources of problems identified by teachers suggest that extensive quantitative and qualitative research is needed to evaluate the practical outcomes of the 2005 education reform.

The significance of this study lies in the data collection techniques used to answer the research questions. Explicitly, elicitation techniques have been utilized in this study such as visual, verbal, or written stimuli to encourage participants to talk about their ideas (Barton, 2015). For the purpose of exploring the perceptions of 2nd and 3rd grade primary school students on current

LSC, creative drama was used as data collection method. The use of the arts, including drama, has offered meaningful methods of inquiry in the area of qualitative research over the last few decades (Barone & Eisner, 2006). Art-based methods are used both as a means to present research findings and as a means to collect and analyze data. However, creative drama activities are rarely used to collect research data exclusively. Thus, little information is existing about using creative drama for this purpose. Norris (2000) has studies of how art, especially drama, is used to represent and disseminate research data. He used research activities to prove that drama could be used for data collection and analysis. In addition, in her study Conrad (2004), has used the popular theater as a pedagogical means and research method in her study, which aims to better understand "at-risk" youth experiences from their own perspectives. Her methodology included a series of games and activities, brain storming, image work and discussion, the creation of scenes that were revealed at the end of storytelling, or in-depth discussions about the themes. It was recognized that in her study, drama encouraged students to examine and reassess their beliefs, problems, and experiences. Similarly, in their study Taylor, Wilder and Helms (2007) used an auto-ethnographic and art-based methodology. They have investigated their data through dramatic activities. The final results of their research were presented in a mixture of context, theater and analysis.

In the last decade, the "visualization" of science has become inevitable by the recognition of the importance of the relationship between cognition and imagination, and therefore art-based research has increased considerably (Jagodzinski & Wallin, 2013). McCaslin (2006) maintains that drama is a shared activity in which each participant's contribution is needed to realize the whole. Creative drama is both a means of self-expression and an opportunity to think independently. Moreover, as creative drama is essentially based on games, it is one of the most appropriate ways for children to share their experiences and perceptions, thereby allowing even very young children to contribute to research as informants. Besides, creative drama offers a very strong and sincere experience (Morey, 2010). Although research with children and young people is crucial, many researchers avoid to collect information from children because of methodological concerns, and ethical issues (Christensen & James, 2008; Tisdall, Davis & Gallagher, 2009; Flewitt, 2005; Lewis, Kellet, Robinson, Percy-Smith & Thomas, 2010). In order to understand the experiences of young children the researchers generally explored the views and understandings of their adult caretakers (i.e, teachers, administrators, and parents) rather than children's own views and understandings (Fraser, 2004). Many researchers collected data related to LSC, through document analysis (Akınoğlu, 2008), questioning the teachers' and administrators' opinions (Gömleksiz & Bulut, 2007). However, adults cannot know children's world perspectives unless the children clarify to them. Creative drama offers each child an opportunity to share ideas by permitting them to play freely in a setting of security and acceptance. When participate in creative drama activities the students feel comfortable and express themselves freely. In this study the researcher's experiences with creative drama indicated that after adopting appropriate data collection methods, young children can and should contribute to research as informants. Effective curriculum changes and implementation requires the teachers to translate curriculum documents into practice, accept new teaching approaches and techniques, and arrange the classroom setting conducive to the new curricula. Moreover, it necessitates adoption of new approaches to teaching by all stakeholders. Therefore, this study was designed to examine implementation of the LSC in one primary school from the perspectives of teachers, students and administrators. It investigated the degree to which these perceptions were reflected in classroom practices and whether or not the implementation of the curriculum was conducive to the principles of constructivist pedagogy. More specifically, the study aimed to answer the following research questions: (1) What are the general characteristics of the current LSC? (2) How do administrators, teachers and students view implementation of the LSC in relation to the roles of participants (teachers, students and parents), main teaching methods, teaching materials and assessment techniques? (3) Is the LSC being implemented in a manner congruent to specific recommendations offered by constructivist pedagogy?

METHOD

This study adopted a qualitative case study research design, because it is particularly well-suited to gathering detailed information about the perceptions of participants and is considered the ideal methodology to employ when a holistic, in-depth investigation of individuals, groups, institutions or other social units is needed (Baxter & Jack 2008; Yin 2009). Study design and data collection instruments received approval from the university's ethics committee.

Participants

Purposive sampling was adopted in the selection of participants for this study. A sample of 87 students from Grades 2 and 3, 2 co-administrators, and 4 classroom teachers from a public elementary school in Ankara constituted the study. The two main criteria for selection were (1) the willingness of individuals to participate in the study and provide the required information, and (2) the position of the researcher as a teacher in the school, which helped facilitate the necessary permission through ongoing contact with the relevant MONE District Directorate. The study was approved by the MONE, and all participants gave their informed consent. Although all Grade 2 and Grade 3 classroom teachers were asked to participate in the study, only female classroom teachers showed a willingness to volunteer; therefore, two female Grade 2 classroom teachers and two female Grade 3 classroom teachers were selected. The background characteristics of the participant teachers are shown on Table 1.

Table 1. *Teachers Background Information*

Grade	Teacher	Gender	Age	Department of Graduation	Years of Exp.	In-service training (days)
2	Ayşe*	Female	39	The Faculty of Communication	13	15
2	Filiz	Female	39	Classroom Teaching	19	5
3	Burcu	Female	32	Classroom Teaching	9	5
3	Şebnem	Female	31	Biology	6	-

(*The teachers were given pseudonyms)

The average age of the participating teachers was 35 (SD = 4.35). Two teachers were graduates of classroom-teaching departments at education faculties, whereas the remaining two teachers had received teaching certificates either from alternative certification programs offered to graduates of education faculty departments other than classroom teaching or from other faculties. In order to ensure confidentiality, names of participants were not recorded, and they are referred to by pseudonyms in all transcripts.

More than half of the participating students were female (53%), and slightly more than half (52%) were in Grade 2, with the remainder in Grade 3. Although the LSC is implemented in Grades 1-3, students in Grade 1 were not included in the study, since the majority was still illiterate. The demographic characteristics of student participants are shown in Table 2.

Table 2. *Students' Demographic Characteristics*

Grade Level	Female	%	Male	%	Total	%
2nd Grade	24	27.6	21	24.1	45	51.7
3rd Grade	22	25.3	20	23.0	42	48.3
Total	46	52.9	41	47.1	87	100.0

Data collection

The use of multiple data sources is a hallmark of case study research that enhances data credibility (Patton, 1990; Yin, 2009). Data sources may include document analysis, semi-structured interviews with administrators, classroom observation, stimulated-recall interviews (SRI) with teachers, and creative drama sessions (CDS) with students. Each data source is looked upon as one piece of a puzzle, with each piece contributing to the researcher's understanding of the phenomenon as a whole (Patton, 1990; Yin, 2009). Table 3 provides details of the data collection techniques that were involved in the study.

Table 3. *Framework for Data Collection*

	Data Collection Method				
Aspects of each specific curriculum area evaluated	**Document analysis**	**Semi-structured interviews with administrators**	**Classroom observation**	**Stimulated-recall interviews (SRI) with teachers**	**Creative drama sessions (CDS) with students**
The general characteristics of the current LSC (e.g. content & acquirements)	Teacher committee meeting reports, worksheets, teaching schedules and the lesson plans	-	-	-	-
Teaching & learning (e.g. instructional methods, materials, textbooks)	Student Course books & Work books, Teacher Guide's	+	+	+	Role play Writing
Classroom environment (e.g. roles, communication, classroom setting)	-	-	+	+	Drawings, Role play Writing
Measurement and evaluation	-	-	+	+	Writing

In order to reveal the general characteristics of the current LSC document analysis were used. Documents (DOC) reviewed in the present study include teacher committee meeting reports, worksheets, teaching schedules and the lesson plans provided in teacher guidebooks. Whereas document analysis helped to provide an understanding of the intent behind the latest LSC curriculum design, other evaluation techniques helped provide insight into how this curriculum is perceived (including perceptions regarding teacher, student and parental roles; classroom setting; and classroom climate) as well as how it is being implemented in the classroom.

To address how administrators, teachers and students do view about the implementation of the LSC, semi-structured interviews with administrators, and stimulated-recall interviews with teachers were conducted. Besides, creative drama activities were used to help the students to express their opinions about the LSC, providing insight into how the intended curriculum is perceived as well as how it is being implemented in the classroom.

The semi-structured interviews involve a series of open-ended questions based on the topic areas that the study aims to cover. In order to prevent answering difficulties or brief responses, prompts were used to encourage the participants to consider the question further. Each interview lasted about 20 to 35 minutes. All of the interviews were tape-recorded though getting permission from the participants.

To reveal the teachers' reflective understanding of the nature of teaching and learning processes stimulated-recall interview (SRI) was used. According to Barton (2015), teachers cannot easily think aloud at the same time they are engaged in lessons. In order to discover what goes on inside an informant's mind during the teaching-learning process they are asked to recall their thinking at a later time, frequently while they watch video recordings of lessons or segments (Lyle, 2003; O'Brien, 1993; Ryan & Gass, 2012). In this case, teachers were asked to watch the videotape of the lesson as a stimulus to prompt recall or the event and to think aloud in order to recreate their thoughts as they occurred during the lesson. Each stimulated-recall interview was recorded on audiotape and transcribed. Teachers were asked questions about the video such as 'what was going on now?' and 'what's happening here?' and they asked to verbalize their thoughts they had during the event.

Following SRIs with teachers, four creative drama sessions were conducted with students in two-month period to examine their perceptions of particular aspects of the life sciences classes, namely, the roles of stakeholders (teachers, students and parents), materials used during the lessons, and assessment methods of the teacher. With the intention of making certain participants' sincerity, volunteer students were participated in creative drama activities, in groups of 20-25 individuals, under the guidance of the researcher. The creative drama activities used in this study were developed by the researcher, who has received training in creative drama leadership. Role-playing and discussions were used to identify the roles of teachers, students and parents, whereas brainstorming, "still images" (where participants construct poses to represent a scene), writing and drawing exercises were used to develop an understanding of the teaching activities, assessment techniques and materials used in LSC implementation. Explicitly, the students were asked to write a letter about an ordinary life sciences lesson, and draw a picture of physical setting of classroom, and the instructional materials as a part of creative drama activities.

The third research question, whether the LSC being implemented in a manner conducive to specific recommendations offered by constructivist pedagogy, was answered by analyzing the transcripts and field notes of interviews, and creative drama sessions. Moreover, with the intention of examine teacher-student interaction; observations were conducted in a total of four classes – two for each teacher (morning and afternoon shifts) in each grade (2 and 3). Observed lessons were also recorded on videotape, with the camera positioned so as to capture the perspective of teachers to as great an extent as possible.

Data Analysis

Data collection and analysis were undertaken concurrently throughout the study. Qualitative data collected through interviews and observations was categorized thematically using content analysis. Content analysis is an unobtrusive and quick method for analyzing great amounts of transcript. At the beginning of the content analysis, the unit of analysis must be designated. In this study, all interviews, observations and creative drama activities were selected as the appropriate units of analysis when starting content analysis. The collected data were transcribed, coded and analyzed by discriminating patterns and constantly comparing incidents to the codes to help establish clearly defined categories (Miles & Huberman, 1994; Bazeley, 2007). During the data analysis three procedures were used that were suggested by Miles and Huberman (1994): First of all, the mass of qualitative data collected were reduced and organized, out through data coding, categorizing, and subcategorizing; thematic synthesis; writing summaries, discarding irrelevant data and structuring of relationships. Second, in order to demonstrate the data several graphical layouts were utilized such as figures and tables. Third, the conclusions regarding to the study were developed. Then, these preliminary conclusions were verified, that is the validity was examined through reference to the existing field notes or further data collection.

Preliminary conclusions were initially developed and their validity examined by referring to existing field notes and collecting further data (Bogdan & Biklen, 2007; Marshall & Rossman, 2006). The documents were analyzed in order to identify different aspects of the LSC so as to determine its overall characteristics. The criteria used in document analysis are considered to be in line with a constructivist approach (See Appendix 1). Responses were reviewed according to the research questions.

Techniques such as member validation, searching for negative cases and alternative explanations, triangulation, *multiple coding,* maintaining an audit trail and reflexivity were used to increase data reliability (Holloway & Wheeler, 2010; Guba & Lincoln, 1994).

FINDINGS

Content analysis showed that the data obtained could be classified into one of three broad categories, specifically, (1) characteristics of the LSC as designed, (2) views of administrators, teachers and students about the implementation of the LSC, and (3) LSCs appropriateness to constructivist approach. Each category was further described below by descriptive elements for added meaning through subsections. Accordingly, the following discussion provides brief explanations of these categories and includes quotations that illustrate them more clearly.

General Characteristics of LSC

The general characteristics of the LSC design were identified through an analysis of relevant documents, including reports of teacher committee meetings, textbooks, workbooks, worksheets, teaching schedules and lesson plans, as described in the LSC teacher guidebooks. Document analysis indicated that the LSC aims to prepare students for life and teach them basic knowledge related to the natural and social sciences. The curriculum employs a holistic approach, embracing the totality of the child's individual life experiences – including biological, psychological, social and cultural aspects – by integrating the disciplines of social studies, citizenship, environmental education, and sciences. In the program, three main learning areas are identified, namely "individual", "community" and "nature", and change is considered as a more general dimension surrounding all these learning areas (MONE, 2005, p.12). The organization of content and learning domains was found to follow a thematic approach. This has been viewed by many researchers as one of the most positive characteristics of the latest LSC in that it has helped to eliminate the content overlap and repetition that existed in the previous subject-based curriculum (Altınyelken, 2010; Dağlı, 2008; Demir, 2007).

Although the previous curricula used "goals", "objectives" and "target behaviors", the latest curricula abandoned this terminology, and use "acquirement" instead (Curriculum Review Commission, 2005). The LSC includes 85 acquisitions in Grade 1, 95 acquisitions in Grade 2 and 113 acquisitions in Grade 3. However, a number of acquisition statements actually comprised more than one acquisition, as in the following example, "Recognize various sounds of traffic, distinguish differences among them, and express this in an original manner" (MONE 2005, p.146). Whereas well-written acquisitions should contain only one action verb that clearly expresses what a student must know and be able to do (University of Florida, Academic Program Assessment Handbook, 2005), the above-mentioned acquisition contains three action verbs, causing confusion as to what the student must do to follow the instruction. Furthermore, most acquisitions required students to recall or recognize facts, thus referencing the knowledge level of Bloom's taxonomy (Bloom, 1956), with the highest level referenced that of analysis.

The written curriculum recommends such activities problem solving, discussion, brainstorming, creative drama, role play and critical thinking, however, the activities in the teacher's guidebook require only question-answer technique and reading strategies (MONE, 2005). The LSC as written also suggests that teachers employ authentic assessment techniques such as projects, diaries, portfolios, rubrics, checklists, performance assessments, posters, self-assessments, peer-assessments and group assessments when measuring and assessing student knowledge, skills and attitudes.

LSC Implementation from the Views of Administrators, Teachers and Students

Analysis of data collected on LSC implementation was classified in terms of particular aspects of the life sciences classes, namely, roles of teachers, students and parents; teaching methods and instructional materials utilized in the classroom; classroom setting; classroom climate; and assessment techniques.

Roles of Teachers, Students and Parents

The analysis revealed a number of differences between the roles of teachers, students and parents as envisaged in the written LSC, as perceived by LSC participants, and as actually implemented. In the case of the LSC, interviews indicated that both teachers and administrators emphasized the role of the teacher as a facilitator, as exemplified in the following quotes:

> "I would provide guidance to students and I have the opportunity to see everything they do." (SRI. Burcu, p.9).

> "I encourage my pupils to engage in dialogue both with me and with peers. I generally warn them to talk to peers not to me during the oral presentations." (SRI. Burcu, p.5).

However, perceptions regarding teachers' roles differed, at times greatly, among teachers, students and administrators. Moreover, classroom observations and creative drama sessions revealed that in implementing the LSC, teachers were unable to change their role from one of transmitter of knowledge to one of guide in the knowledge-construction processes of their students. Subject matter was taught by the teacher, who used a prescribed approach to teach the curriculum to everyone in their classrooms and provided very few opportunities for students to participate or practice individually.

Similarly, despite the fact that the perceptions regarding student roles were in line with the requirements of a constructivist approach, classroom observations and creative drama sessions revealed different sets of behaviors in reality. For example, although the school administrator stated that student roles have changed – "…Our aim is to allow the students to join their own learning; from now on they will take more responsibility for their learning" (AI.1, p.5) – classroom observations showed that lecturing continued to be the main teaching method, and as a result, student participation was still limited. Specifically, students were observed to be sitting, listening to explanations, answering questions, or watching videos, slide shows or presentations by their peers. Students were rarely allowed to generate their own questions or share relevant information of their own. Some students were obviously engaged in other activities such as staring out the window, browsing through books, rummaging through their bags, sharpening pencils, or throwing out trash, indicating that the teaching method used had failed to gain their attention. Whereas a constructivist approach emphasizes students' roles as active participants in their own learning processes, students continued to be perceived by administrators, teachers and students as passive receivers of information with regard to the LSC curriculum.

Creative drama sessions also indicated that the classroom was directed by the teacher rather than the students and that student participation was limited to merely following the directions of the teacher, as the following excerpts from texts written by students during the creative drama sessions make clear:

> "Students listen to the teacher and do the assignments given by the teacher." (CDS.3.4)

> "We read the topic from our textbooks, then we review the pictures, and then we interpret the pictures. Then our teacher asks questions and we answer. After that, we write the answers in our notebooks." (CDS.3.8)

"Students ask questions, give answers, do the activities in the textbook, and revise the topics that they did not understand, read the textbook, write, do homework and listen to the teacher." (CDS.2.2)

As was the case with teachers and students, differences were also observed between the envisaged and actual roles of parents in the implementation of the LSC. Whereas the curriculum theoretically encourages active parent involvement, administrators, teachers and students stated that the roles of parents were limited to helping students with homework, bringing students to school and providing for their education-related material needs.

Teaching Methods

It is possible that student behavior was affected by the teaching methods used in the classroom, which did not encourage students to take active roles in the lessons. In fact, teachers were found to allow little room for innovation in the life sciences (LS) classroom, relying mainly on lecture, demonstration and question-and-answer techniques that are not conducive to the development of higher-order skills such as creative and critical thinking and problem-solving. Most of the teaching time was devoted to question-and-answer, as the following quotation makes clear:

"In my opinion, question-answer is the best teaching method for the life sciences lesson because it is well-suited to the transmission of conceptual and systematic knowledge." (SRI. Burcu, p.8).

Whereas Grade 3 teachers and students indicated that a number of different teaching techniques were employed in the classroom (brainstorming, visual reading, animation, drama/role playing, presentations, group work), stimulated-recall interviews revealed that teachers had difficulties using collaborative teaching methods. Despite assertions by educational experts, reformers and intellectuals that direct instructional methods are insufficient and that information technology has made lecturing out of date, the participating teachers continued to rely on lecturing, and, surprisingly, students expressed a preference for this method of instruction. Learning is usually relying on replication rather than building on what the students already know.

Instructional Materials

One surprising finding of this study was the poor quality of the instructional materials used in the lessons. Specifically, there were no any primary sources, manipulative or interactive materials in the classrooms. Although administrators stated that classrooms were equipped with technological tools such as computers, projection equipment and interactive boards, classroom observations and creative drama sessions showed that teaching materials were limited mainly to secondary materials such as textbooks, workbooks and chalkboards. Similarly, the teachers stated that textbooks, chalkboard, and television are mainly used materials. During the creative drama activities, the students stated that textbooks, notebooks, pencils, papers, whiteboard, scissors, board marker and glue are the mostly used materials in the LS course. Similarly, Gülbahar and Güven, (2008) found that many teachers depended on textbooks and blackboards due to a lack of resources.

Classroom Setting

Classroom organization is influenced by many factors, including classroom size as well as type and placement of furniture, materials and resources. Stimulated-recall interviews revealed that teachers were unhappy with their classroom organization, but felt they had no other options, as Ayşe's words illustrate:

"…Unfortunately, we could not arrange the desks differently. We tried to make a "U" shape during Domestic Goods Week *[Yerli Malı Haftası],* but it was

impossible. The room is not large enough to make other arrangements. If we had only 25 students, it would be very nice… If the classroom is big enough, you can do anything you want. But not here." (SRI. Ayşe, p.3)

Classroom observations and student drawings revealed the predominance of a traditional layout in all classrooms. Figure 1 displays one example of a classroom layout as drawn by a student.

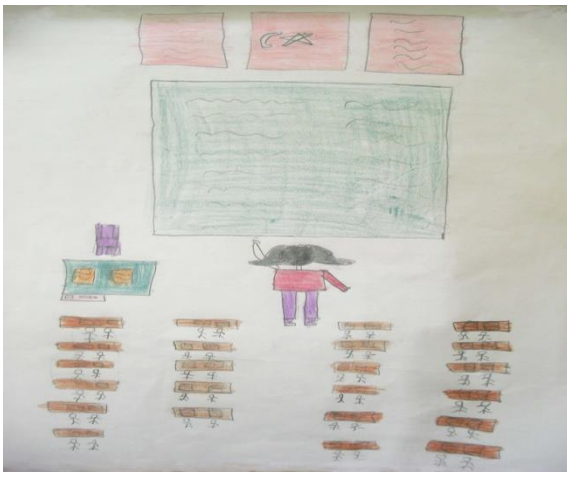

FIGURE 1. *The Physical Setting of a Life Sciences Classroom from a Student Perspective*

Classroom Climate

Classroom environments were observed to be safe and comfortable for students, who felt a sense of self-worth and showed an eagerness to learn. Teachers were observed to encourage reticent students to share their opinions and provide equal opportunities for all students to express their opinions. In a stimulated-recall interview, one teacher indicated that she allowed students who raised their hands to talk first and then encouraged others to participate by asking "What do you think about this topic?" or "Could you tell us your opinion?" (SRI. Filiz, p.1). Teachers said they tried to be open to new ideas in order to enhance student creativity, that they encouraged students to share their own opinions and that they did not tolerate teasing. Teachers also stated that they provided students with opportunities to explore different perspectives, that they employed a variety of strategies to include students' choices into their lessons and that they recognized and supported student autonomy and initiative. The following sentiments from teachers bear the testimony to the above:

"…I usually try to allow children from all levels to speak – including the most successful, the intermediate and the unsuccessful… I allow students to speak in line with their ability. I do not always call on successful students." (Şebnem, SRI. p.3)

"I always monitor my students. Generally, I give an opportunity to students who are not willing to talk very much." (Filiz, SRI., p. 2)

Assessment Techniques

Though the teachers thought that utilization of the authentic assessment methods are beneficial, they were found to make wide use of traditional assessment methods. Grade 3 teachers stated that they rarely used group assessment, peer assessment, or other authentic assessment

techniques. The following quotation illustrates one teacher's preferred assessment methods and her reasons for using them:

> "We are now applying different assessment methods, but it is a fact that to apply these different methods in classrooms with 45 students puts a great load on a teacher's shoulders. This is very harsh for teachers… It is very good to assess children with different methods. If students fail in one assessment (i.e. a written exam), they can express themselves in another assessment (i.e. a presentation). However, it is very hard and exhausting to employ authentic assessment in large classes." (SRI. Burcu, p.13)

In fact, stimulated-recall interviews revealed that among the many problems teachers encountered when they first started to implement the LSC, the assessment of student accomplishments and organization of group work were particularly challenging. The following remark fully supported this view:

> "…When we were introduced to this system for the first time, we had no clue about what to do. There were a lot of papers everywhere. Our minds were filled with so many questions, such as "How can I copy them?" We thought that we could not assess group work. So, we didn't use group activities, because we could not assess the children's achievement…" (SRI. Burcu, p. 8)

LSCs appropriateness to constructivist approach

This section revealed whether the written and implemented LSC is appropriate to constructivist approach or not. Data were inspected in line with the general characteristics of the LSC as designed, and views of administrators, teachers and students about the implementation of the LSC.

It was seen that most of the acquisition statements contained in the curriculum guide are not in line with a constructivist approach. LSC acquisition statements such as 'Know their own and peers' strong characteristics' and 'Classify transportation vehicles' (MONE, 2005) make it clear that higher-order thinking skills considered to be important elements of a constructivist curriculum were not included among the LSC learning outcomes. This finding of this research match the literature in which many authors highlighted the fact that most of the acquirements were required students to recall or recognize facts, and there were no matches between activities and acquirements (Curriculum Review Commission, 2005).

LSC oriented to the student-centered approach in general, but there was not consistency among the all features of the curriculum. It is emerged that the written curriculum proposed student-centered approach; however, implemented curriculum displayed some characteristics of subject-centered approach. Explicitly, the contents of the life sciences textbook have been designed in such a way as to allow teaching to move from 'easy to difficult', 'close to far", 'meaningful to meaningless', 'similarity to difference' and 'abstract to concrete' principles (MEB, 2005). Since the classrooms are crowded the teachers not have enough opportunities to get to know each child, and create a close relationship with the students. Although researchers have noted how learners in constructivist classrooms are expected to actively participate in the knowledge-construction process, building links between newly acquired knowledge and existing concepts and working collaboratively with their peers (Davis, 2003; Papert, 1981; Pressley, Harris, & Marks, 1992), the implementation of LSC is not appropriate to constructivist approach.

Regarding the perceived roles of participants in implementation, it can be argued that the LSC as written is in line with constructivist recommendations, given the emphasis placed on the guiding and facilitating roles of teachers, the active participation of students and the involvement of parents (MONE, 2005). Nonetheless, the students indicate that parents usually do not participated in education, apart from helping them with the teacher-assigned homework.

Whereas constructivism assumes that learning takes place when students produce questions and seek out the answers to these questions themselves (El-Hindi, 1998), observations showed that few LS teachers allowed students to generate questions and answers on their own. Rather, teachers introduced new concepts by asking questions and then eliciting student responses. Besides, the observations revealed that the LS lessons are generally teacher-centric in nature and focus on memorization and repetition.

DISCUSSION and CONCLUSION

This study examined the characteristics of the LSC, focused on the effectiveness of LSC implementation and on the appropriateness of the implementation to the principles of constructivist pedagogy. The findings indicated that the curriculum takes a thematic approach that focuses on developing skills like critical thinking, creative thinking and problem-solving. Overall, document analysis showed the LSC was prepared in accordance with a constructivist approach in that it employs an integrated curriculum that links several subjects, including humanities, communication arts, natural sciences, mathematics, social studies, music and art (Knobloch, 2002; Shoemaker, 1989). Document analysis also demonstrated that the LSC attempts to adopt a student-centered approach by putting the student's needs, interests and experiences at the center of the curriculum (Akınoğlu, 2008; Babadoğan & Olkun, 2006). However, the teacher guidebook was prepared to express the teachers what and how to teach. The observations revealed that the teachers follow the textbook and curriculum guide, and employ direct instruction. Parkerson and Parkerson (2008) supposed that these are aspects of subject-centered curriculum.

Despite the curriculum's constructivist approach, the findings revealed certain problems in the implementation of this new curriculum. Specifically, classroom setting, instructional material, teaching methods, and assessment techniques were not conducive to a constructivist approach. It can be concluded that teachers have some problems in adopting new approaches to teaching. The applied curriculum revealed some features of subject-centered approach, rather than student-centered approach. Possible reasons for this include insufficient classroom space and/or inflexible furniture; teachers' lack of knowledge of teaching and authentic assessment techniques; and un-preparedness on the part of stakeholders (i.e. teachers, students, administrators and parents).

In addition, the findings revealed that students' classroom behavior to be out of line with the recommendations of the constructivist pedagogy envisaged in the LSC. The teachers mainly used lecture; that is students are sitting passively and listening during the LSC. Sitting is exhausting; it puts students in a passive and ineffective role. In order to address this issue, stakeholders need to be made aware of certain basic characteristics of primary-level students, namely, their short attention spans, inability to sit still for long periods of time, need for demanding physical activity and peer approval and readiness to engage in daring and adventurous behavior (Feigelman, 2007; Yıldırım, Güneri & Sümer, 2002).

Meanwhile, the findings revealed that the teachers forced to teach in overcrowded classrooms, they were incapable to give individual attention to each student' needs. Accordingly, teachers need to consider the backgrounds and cultures of their students, as these elements enable learners to construct the knowledge and reality that they create, discover and attain as part of the learning process.

The suggested instructional methods may also be considered in line with a constructivist approach, as the proposed teaching methods include a mixture of lecturing, discussion, case studies, demonstrations, problem-solving and individual work (Özdemir & Yıldız, 2009, p.39), and, as noted by researchers, constructivist instruction encourages students to use their school learning in problem-solving and decision making (El-Sheikh Hasan, 2000; Richardson, Morgan & Fleener, 2012).

Still on the issue of instructional materials, teachers mainly use secondary sources such as textbooks, workbooks, and blackboards rather than primary sources, manipulative or interactive

materials. There were not enough technology and resources to go around in the classroom. The use of appropriate teaching materials can transform students into active participants in the teaching-learning process. Research has repeatedly shown that using primary sources in the classroom enables the teachers to reach all kinds of learners. The integration of primary sources into instructional activities can have a crucial influence on student achievement as related to the cognitive processing domain, as well as student motivation and achievement (Tomei, 2008). Moyer, Bolyard, and Spikell (2002) claimed that virtual manipulative materials create opportunities for students to construct knowledge in their own ways.

The role of parents in education is another important issue to be addressed. Defining roles prevents conflicts and ensures that fundamental requirements are not overlooked in curriculum implementation. Findings revealed minimal parental involvement in the school's parent education program. The findings also revealed that most parents only become involved in their children's education through helping their homeworking. It may be argued that such parental behavior prevents students from actively participating in and taking responsibility for their own learning, which are key elements in a constructivist approach (Kanuka, & Anderson, 1999; Şentürk, 2009; von Glasersfeld, 1992). How parents provided help with the LSC is clearly not conducive to a constructivist approach, which requires parents to be stripped of their former roles, i.e. doing homework and providing direct answers to their children's questions (Akpınar, 2010). In order to increase parental involvement, administrators and teachers first need to understand the reasons why parents are reluctant to participate. By showing respect for parent contributions and helping parents to understand the philosophy and requirements of the curriculum, teachers and administrators may encourage parents to become more appropriately involved in their children's education. Teacher outreach may take the form of a letter to parents describing the aim of homework and asking how and in what areas parents would like to contribute, as well as weekly progress reports that ask for a parent's opinion when a child is having trouble or is getting poor grades.

The assessment methods specified in the LSC goes hand-in-hand with a constructivist approach, which includes written tests/examinations as well as performance assessments, portfolio assessments and other authentic assessment methods (Gagnon& Collay, 2006, p. 156). However, teachers still emphasized summative evaluation rather than formative evaluation.
Research has shown that a classroom's physical layout is reflective of the teaching approach (Fields & Fields, 2006). Namely, seating students in rows provides little opportunity for group work, whereas clusters of desks facilitate social exchanges among students, and shapes encourage group discussions (MacAulay, 1990; Walker & Walker, 1991). According to researchers, seating in constructivist classrooms should be flexible enough to allow students to work collaboratively. Considering that a constructivist classroom places great emphasis on social and communication skills as well as collaboration and exchange of ideas (Kumari, 2009; McNamara, 2002), it might be concluded that, in the case of the LSC, the classroom layouts were not conducive to the constructivist approach due to crowding and inflexible furniture. On the contrary, classroom observations reflect some features of classroom climate pertinent to constructivism, such as care, trust and respect in the interpersonal relationships of teachers and students. Thus, it could be concluded that LS teachers were able to create a classroom climate conducive to a constructivist approach.

Based on these findings, a number of suggestions can be offered to MONE policymakers and school practitioners to close the gap between the reformed LSC design and its actual implementation. First, as with any curriculum change, teachers need to be aware of both the theoretical principles and classroom implications of the changes in the LSC (Carless, 1998; Kırkgöz, 2008). This requires the provision of in-service training and support programs to help teachers succeed in making use of appropriate teaching and assessment methodologies. In-service training can be organized so as to encourage teachers to employ new teaching techniques. For example, given that teachers were aware of the benefits of group work and creative drama but lacked the ability to put these techniques into practice in the LSC classroom, in-service education could provide instruction in good practices related to the use of collaborative activities and creative drama. Providing appropriate examples could prompt teachers to enhance their

instructional repertoire with interactive materials and instruction methods such as hands-on activities and pair work to compensate for the negative effects of crowded classrooms. In practice, this would require moving away from a fixed-seating classroom infrastructure that cannot be rearranged to accommodate working in small groups.

In-service training programs also need to address the issue of assessment, which was viewed as one of the most problematic aspects of LSC implementation. In this regard, more detailed information could be included in teacher guidebooks about the use of rubrics and other authentic assessment methods. Moreover, in-service training should support teachers in becoming technologically literate so they can incorporate technology and interactive materials into LSC lessons. This would require equipping schools with up-to-date, adequately maintained technological hardware and software. Finally, increasing the relevance of in-service programs in this manner should also increase the likelihood that teachers will participate in these training activities.

In conclusion, the findings of this study may help curriculum specialists to identify which aspects of the LSC were successfully implemented. Further studies may be conducted during any phase of the curriculum development process so as to gather as much data as possible regarding the implementation of this relatively new curriculum. Finally, it is hoped that this report may help researchers gain some sense of how creative drama sessions may be used as data-collection tools, enabling even young children to participate in research as informants, and that this subject itself may become an avenue for further study.

REFERENCES

Akınoğlu, O. (2008). The curricular reform initiatives of Turkey in the fields of life science and social studies in the process of accession to the European Union. *World Applied Sciences Journal,* 3(2), 168-183.

Akpınar, B. (2010). Yapılandırmacı yaklaşımda öğretmenin, öğrencinin ve velinin rolü. [Role of the teachers, student and parents in constructivist approach]. *Eğitime Bakış, Eğitim-Öğretim ve Bilim Araştırması Dergisi*, 6(16), 16-20.

Altınyelken, H. K. (2010) Curriculum change in Uganda: Teacher perspectives on the new thematic curriculum. *International Journal of Educational Development*, *30*(2), 151-161.

Azzarito, L. & Ennis, C. D. (2003). A sense of connection: Toward social constructivist physical education. Sport. *Education, and Society*, *8*, 179-198.

Babadoğan, C. & Olkun, S. (2006). Program development models and reform in Turkish primary school mathematics curriculum. International Journal for Mathematics Teaching and Learning. Retrieved on 10-October-2010, at URL: http://www.cimt.plymouth.ac.uk/journal/default.htm

Badders, W. (2000.) Methods of Assessment. Retrieved on May 21, 2010 at URL: http://www.eduplace.com/science/profdev/articles/badders.html

Barone, T. & Eisner, E. (2006). Arts-based educational research. In J. Green, G. Camilli, and P. N. Elmore (Eds.), Handbook of complementary methods in education research (pp. 93-107). New York, NY: Lawrence Erlbaum Associates.

Barton, K. C. (2015). Elicitation techniques: getting people to talk about ideas they don't usually talk about. *Theory and Research in Social Education, 43*(2), 179-205.

Baxter, P. & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*(4), 544-559. Retrieved on 10-August-2010 at URL: http://www.nova.edu/ssss/QR/QR-4/baxter.pdf

Bazeley, P. (2007). Qualitative data analysis with NVivo. London: Sage.

Birgin, O. Tutak, T. & Türkdoğan, A. (2009). Primary school teachers' views about the new Turkish primary school mathematics curriculum. *E-Journal of New World Sciences Academy, 4*(2), 270-280.

Bloom, B. (1956). Taxonomy of Educational Objectives. New York, Longmans, Green.

Bogdan, R. & Biklen, S. K. (2007). Qualitative Research for Education: An Introduction to Theories and Methods. Boston, Mass. Pearson A & B.

Brooks, J. G. & Brooks, M. G. (1999). In Search of Understanding: The Case for Constructivist Classrooms. Alexandria, VA: Association for Supervision and Curriculum Development.

Burris, S. & Garton, B.L. (2006). An investigation of the critical thinking ability of secondary agriculture students. *Journal of Southern Agricultural Education Research, 56* (1), 18-29.

Carless, D.R. (1998). A case study of curriculum innovation in Hong Kong. System, 26, 353–368.

Christensen, P. M. & James, A. (2008). Research with Children: Perspectives and Practices. (2nd ed.). Falmer Press, London; New York: Routledge.

Conrad, D. (2004). Exploring risky youth experiences: Popular theatre as a participatory, performative research method. International Journal of Qualitative Methods 3(1). Article 2. Retrieved on 3-May--2013 at URL: http://www.ualberta.ca/~iiqm/backissues /3_1/pdf/conrad.pdf

Copley, J. (1992). The integration of teacher education and technology: a constructivist model. In D. Carey, R. Carey, D. Willis, and J. Willis (Eds.), Technology and Teacher Education, Charlottesville, VA: AACE, 681.

Dağlı, M. (2008). Integrating critical thinking skills into planning and implementation of teaching Turkish: A comparative case study of three teachers. Unpublished doctoral dissertation. Middle East Technical University, Ankara, Turkey.

Davis, E.A. (2003). Knowledge integration in science teaching: Analyzing teachers' knowledge development. *Research in Science Education, 34,* 21–53.

Demir, S. (1998). Cumhuriyet döneminde program geliştirme açısından hayat bilgisi programlarının incelenmesi [Investigation of life sciences curricula in relation to the program development at republic era]. Unpublished master's thesis. Marmara University Educational Sciences Institute, İstanbul, Turkey.

Demiralay, R. & Karadeniz, Ş. (2008). Developing information literacy skills for lifelong learning in elementary education. *Cypriot Journal of Educational Sciences, 3*(2), 89-119.

El-Hindi, A. E., (1998). Beyond classroom boundaries: Constructivist teaching with the Internet. *Reading Teacher, 51*(8), 694-700.

El-Sheikh Hasan, O. H. (2000). Improving the quality of learning: global education as a vehicle for school reform. *Theory into Practice, 39* (2), 97-104.

Ersoy, A. F. & Kaya, E. (2008). The perceptions of students towards the social studies curriculum (2004) according to the opinions of classroom teachers. *Anatolia University Journal of Social Sciences, 8*(1), 285–300.

Feigelman, S. (2007). Middle childhood. In R.M. Kliegman et al., eds., Nelson Textbook of Pediatrics, 18th ed., (pp. 57–60). Philadelphia: Saunders Elsevier.

Fields, M. V. & Fields, D. (2006). Constructive Guidance and Discipline. Preschool and Primary Education. (4th Ed.). Prentice Hall.

Flewitt, R. (2005) Conducting research with young children: Some ethical considerations. *Early Child Development and Care, 175*(6), 553-56.

Flouris, G. & Pasias, G. (2003). A critical appraisal of curriculum reform in Greece (1980–2002) trends, challenges, and perspectives. *European Education, 35* (3), 73–90.

Fosnot, C.T. (2006). Constructivism: Theory, Perspectives, and Practice. New York, NY: Teachers College Press.

Fraser, S. (2004). Situating empirical research. In S. Fraser, V. Lewis, S. Ding, M. Kellett, C. Robinson (Eds.). Doing research with children and young people. (pp. 15–26). London: Sage.

Gagnon, G. & Collay, M. (2006). Constructivist Learning Design: Key Questions for Teaching to Standards. Thousand Oaks, CA: Corwin Press.

Gökçek, T. (2009). How mathematics teachers' concerns changed within the context of curriculum reform? *Procedia Social and Behavioral Sciences, 1*(1), 1052–1056.

Gömleksiz, M. N. & Bulut, İ. (2007). Yeni hayat bilgisi dersi öğretim programının uygulamadaki etkililiğinin değerlendirilmesi. [An evaluation of the effectiveness of the new primary school life sciences curriculum in practice]. *Millî Eğitim, 173*, 67-88.

Grossman, G. M., Önkol, P. E. & Sands, M. (2007). Curriculum reform in Turkish teacher education: Attitudes of teacher educators towards change in an EU candidate nation. *International Journal of Educational Development, 27* (2), 138–150.

Gruba, P. & Sondergaard, H. (2001). A constructivist approach to communication skills instruction in computer science. *Computer Science Education, 11* (3), 203-219.

Guba, E. G, & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & YS. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-118). London: Sage.

Gülbahar, Y., & Güven, I. (2008). A Survey on ICT Usage and the Perceptions of Social Studies Teachers in Turkey. *Educational Technology and Society, 11* (3), 37-51.

Haser, Ç. & Star, J.R. (2009). Change in beliefs after first-year of teaching: the case of Turkish national curriculum context. *International Journal of Educational Development, 29* (3), 293–302.

Henson, K. T. (1995). Curriculum development for education reform. New York: Longman.

Holloway, I. & Wheeler, S. (2010). Qualitative Research in Nursing and Healthcare, 3rd Edition. John Wiley & Sons, the USA.

Jagodzinski, J. & Wallin, J. (2013). Arts-based research: A critique and a proposal. Sense Publishers. Rotterdam, The Netherlands.

Jonassen, D. H. (1992). Evaluating constructivist learning. In Duffy, TM and Jonassen, DH (Eds.) Constructivism and the technology of instruction, Lawrence Erlbaum Associates Inc., Hillsdale, NJ, (pp. 137–148).

Kanuka, H. & Anderson, T, (1999). Using constructivism in technology-mediated learning: Constructing order out of the chaos in the literature. *Radical Pedagogy, 1*(2). Retrieved on 8-May-2009 at URL: http://radicalpedagogy.icaap.org/content/issue1_2/02kanuka1_2.html

Kırkgöz, Y. (2008). A case study of teachers' implementation of curriculum innovation in English language teaching in Turkish Primary Education. *Teaching and Teacher Education, 24*, 1859-1875

Knobloch, N. A. (2002). Transforming the curriculum for the 21st century. *The Agricultural Education Magazine, 75* (3), 14-15.

Koç, Y., Işıksal, M., & Bulut, S. (2007). Elementary school curriculum reform in Turkey. *International Education Journal, 8*(1), 19-39.

Kumari, P. (2009). Strands of constructivism in the Bhagavad-Gita. Educational Research and Review, 4 (11), 530-534.

Larochelle, M. (2010). Constructivism and Education. West Nyack, NY: Cambridge University Press.

Lewis, V., Kellet, M., Robinson, C., Fraser, S., & Ding, S. (2004). The Reality of Research with Children and Young People. London, Sage.

Lyle, J. (2003). Stimulated recall: A report on its use in naturalistic research. *British Educational Research Journal, 29*, 861-878.

MacAulay, D. J. (1990). Classroom environment: A literature review. *Educational Psychology, 10*(3), 239-253.

Marshall, C., & Rossman, G. B. (2006). Designing Qualitative Research. (4th ed.). Thousand Oaks, CA: Sage.

McCaslin, N. (2006). Creative drama in the classroom and beyond. Pearson Education, Inc.

McNamara, D (2002) Classroom organization for flexible teaching. In A. Pollard (Eds.), Reading for Reflective Teaching. (pp. 202-204). London: Continuum.

Miles, M.B., & Huberman, A.M. (1994) Qualitative data analysis: An expanded sourcebook. (2nd Ed.), Sage: London & Thousand Oaks, California.

Ministry of National Education. (MONE) (2005). İlköğretim 1, 2 ve 3. Sınıflar Hayat Bilgisi Dersi Öğretim Programı ve Kılavuzu. [The teaching curriculum of the life sciences course for the 1st, 2nd, and 3rd grades of primary education]. State Books Directorate Press. Ankara.

Morey, O. (2010). Loving care for a person with dementia: from phenomenological findings to lifeworld theatre. Unpublished doctoral dissertation. Bournemouth University, UK.

Moyer, P. S., Bolyard, J. J. & Spikell, M. A. (2002). What are virtual manipulatives? *Teaching Children Mathematics, 8*(6), 372-377.

Norris, J. (2000). Drama as research: Realizing the potential of drama in education as a research methodology. *Youth Theatre Journal, 14*(1) 40-51.

O'Brien, J. (1993). Action research through stimulated recall. *Research in Science Education. 23*(1), 214-221.

Özdemir, A. & Yıldız, M., (2009). İlköğretim hayat bilgisi 3- öğretmen kılavuz kitabı. [Elementary life sciences 3- the teacher guidebook]. (2nd ed.). Doğan Ofset. İstanbul.

Papert, S. (1981). Mind-storms: Children, computers, and powerful ideas. The Two-Year College Mathematics Journal, 12 (4), 285-286. Retrieved on 5-April-2010 at URL: http://www.jstor.org/stabl/3027082

Parkerson, D. H. & Parkerson, J. A. (2008). The American Teacher: Foundations of Education. New York: Routhledge.

Patton, M.Q. (1990). Qualitative Evaluation and Research Methods, (2nd ed.). Newbury Park, CA: Sage Publications.

Percy-Smith, B. & Thomas, N. (2010). A Handbook of Children and Young People's Participation. Perspectives from theory and practice. Routledge, Taylor & Francis Group. New York.

Pépin, Y. (1998). Practical Knowledge and school knowledge: A constructivist representation of education in Larochelle M. Bednarz N. & Garrison G. (Eds.) Constructivism and Education 1998 Cambridge University Press, New York.

Phillips, D.C. (2000). Constructivism in Education. Chicago, IL: University of Chicago Press.

Pressley, M., Harris, K.R., & Marks, M.B. (1992). But good strategy instructors are constructivists. *Educational Psychology Review 4,* 3-31.

Ryan, J., & Gass, S. (2012). Stimulated recall. In R. Barnard & A. Burns, (Eds). Multilingual Matters, pp.144-161.

Richardson, J. S., Morgan, R. F. & Fleener. C. E. (2012). Reading to Learn in the Content Areas. (8th ed.). Belmont, CA: Wadsworth.

Şentürk, C. (2009). Eğitimde Yeniden Yapılanma ve Yapılandırmacılık. [Restructuring and constructivism in education]. Retrieved on 5-April-2010 at URL: http://www.eab.ege.edu.tr/pdf/2_1/C2-S1-M3.pdf

Sewell, A. (2002). Constructivism and student and misconceptions: Why every teacher needs to know about them. *Australian Sciences Teacher Journals, 48*(4), 24-28.

Shoemaker, B. (1989). Integrative education: A curriculum for the twenty-first century. *Oregon School Study Council Bulletin, 33*, (2).

Sönmez, V. (1996). Hayat Bilgisi Öğretimi ve Öğretmen Kılavuzu. [The teacher guidebook of life sciences teaching]. Anı Publishing. Ankara.

Taylor, P.G., Wilder, S.O., & Helms, K.R. (2007). Walking with a ghost: Arts-Based research, music videos, and the re-performing body. *International Journal of Education & the Arts, 8* (7) 1-27.

Temizkan, M. & Bağcı, H. (2008). 2005 İlköğretim Türkçe dersi öğretim (5. sınıflar) programı öğrenme alanlarının öğretmen görüşlerine göre değerlendirilmesi. [Evaluation of teaching areas of elementary school Turkish course (5th grade) according to teachers' opinions]. *Millî Eğitim, 179*, 178-194.

Tisdall, E.K. M., Davis, J. M. & Gallagher, M. (2009). Researching with Children and Young People: Research Design, Methods and Analysis. Los Angeles; London: SAGE.

Tomei, L. A. (2008). Encyclopedia of Information Technology Curriculum Integration. Hershey, PA: IGI Global.

von Glasersfeld, E. (1992). A constructivist approach to teaching. Paper presented at the Alternative Epistemologies Conference at the University of Georgia, Athens, GA.

Walker, H. M. & Walker, J. E. (1991). Coping with Non-Compliance in the Classroom: A Positive Approach for Teachers. Austin, TX: Pro-Ed.

Watts, J. (1994). Quality in Teaching and Learning Workshop 2: Quality Teaching in Higher Education - Issues and Themes, Rockhampton, Qld, Central Queensland University.

Williams, S. & Charlesb, L. (2008). The experience of developing early childhood learning goals and outcomes in the Caribbean and the implications for curriculum development and implementation. *International Journal of Early Years Education, 16*(1), 17–29.

Woolfolk, A. E. (1993). Educational Psychology. (5th ed.). Needham Heights, MA: Allyn & Bacon.

Wort, M. (2007). Discussion paper: Strategy white paper. Support to Basic Education Program. Unpublished manuscript.

Yin, R.K. (2009). Case Study Research. Design and Methods. Thousand Oaks, California: Sage Publications.

Yıldırım, A. (2006). Yeni ilköğretim programına göre hazırlanmış hayat bilgisi ders kitaplarına ilişkin öğretmen görüşlerinin incelenmesi (Elazığ örneği) [Investigation of life sciences textbooks in relation to teachers' opinions]. Unpublished master's thesis, Fırat University Social Sciences Institute. Elazığ, Turkey.

Yıldırım, A., Güneri, O.Y., & Sümer, Z.H., (2002). Development and Learning. Seçkin Publications. Ankara.

Appendix 1. *Analysis of the documents*

Aspects of Curriculum	**Indicators of the congruence with constructivism**
Acquisitions	Require the students higher order thinking skills; pursuit the educational objectives those associated with affective, cognitive and psychomotor development (Pépin 1998); emphasize respecting for ideas, personal theories, self image, human development, professional esteem, people (Watts 1994).
Content	Content and activities are inseparable. The content stress the importance of students being able to relate newly acquired information to previously understandings (Henson, 1995).
Teaching and learning process	Students actively construct their own knowledge: the mind of the student mediates input from the outside world to determine what the student will learn. Learning is active mental work, not passive reception of teaching (Woolfolk, 1993:485). Foster inquiry, creative and critical thinking, problems solving skills of students.
Instructional materials	Manipulative and interactive materials, physical equipment, raw data, and primary sources such as diaries, speeches, manuscripts, letters, interviews, news film footage, autobiographies, official records, poetry, drama, novels, music, art, pottery, furniture, clothing, buildings (Brooks & Brooks, 1999).
Teacher role	Facilitating, modeling, coaching, guiding, scaffolding (Copley, 1992; Jonassen, 1992). They help the students to access to the process of knowledge construction, and encourage student engagement in lessons. They foster and accept student autonomy and initiative (Brooks & Brooks, 1999).
Student role	They direct the lesson, and construct their own ideas (Sewell, 2002). They collaborate with peers, and have ownership of the curriculum and educational experiences (Azzarito & Ennis, 2003). They take the responsibility of their own learning when performing an authentic task, monitor and manage their own learning and performances (Gruba & Sondergaard, 2001). They actively construct their knowledge, rather than

	simply absorbing ideas spoken to them by teachers (Fosnot, 2006; Phillips, 2000; Larochelle, 2010).
Assessment techniques	Alternative assessment techniques: Constructivists encourage self-reflection as a means of assessment, or encourage students to exchange evaluations of each other's work (Brooks & Brooks, 1999). Verbal discussions such as interviews, debates, knowledge telling, co-investigations, or dramatizations, observation, mind mapping, portfolios, hands-on activities, checklists, investigative projects, pre-testing, paper and pencil tests, and performance tasks are often used to evaluate work in a constructivist frame (Badders, 2000).

,