

EVALUATION OF STUDENTS' ATTITUDES TOWARDS E-EXAMS AND USE OF TECHNOLOGY IN THEOLOGY DISTANCE UNDERGRADUATE EDUCATION PROGRAMS

Bülent BAŞARAN*, Murat YALMAN**, Serdar ERKAN****

Abstract:

The purpose of this study was to introduce the multimedia applications in Theology Distance Undergraduate Education Program (TDUEP) and to determine the users' attitudes towards exams executed to assess the outcomes. For this purpose, PowerPoint documents, videos, SCORM-compatible e-learning materials and Adobe Connect live lesson applications were developed to guide users in theology education as well as to make the teaching and learning process more entertaining. The study was carried out with 1500 students registered to TDUEP at a state university. The questionnaire form developed was applied to the students during the end-of-term exam week. The questionnaire forms which were not filled out completely or appropriately were excluded, and the remaining total number of questionnaire forms decreased to 1286. The results of the analysis of the questionnaire forms filled out by the participants revealed that there was no significant difference in the students' attitudes towards the web-based assessment system with respect to their gender and class grades. On the other hand, the results of the Chi-Square independence test conducted to examine whether the variable of gender had any relationship with the exam duration, place-independence of the exams and use of the exam system demonstrated that there were significant differences between the groups.

Key Words: Distance Education, e-exam, religious education, multimedia

İlahiyat Uzaktan Eğitim Lisans Tamamlama Programlarında Teknoloji Kullanımı ve e-Sınavlara Yönelik Öğrenci Tutumlarının Değerlendirmesi

Özet:

Bu çalışmada, İlahiyat Lisans Tamamlama (İLİTAM) uzaktan eğitim programında multimedya uygulamalarının tanıtılması ve kazanımları değerlendirilmesi için yapılan e-sınavlara yönelik kullanıcı tutumlarının belirlenmesi amaçlanmıştır. Bu amaçlara ulaşmak için ilahiyat eğitiminde, kullanıcılara rehberlik edecek ve aynı zamanda öğretme ve öğrenme sürecini keyifli hale getirecek PowerPoint slaytları, videolar, SCORM uyumlu e-öğrenme materyalleri ve Adobe Connect canlı ders uygulamaları gerçekleştirilme çalışması yapılmıştır. Bu çalışma uzaktan eğitim programıyla bir devlet üniversitesinin İLİTAM programına kayıtlı 1500 öğrenciyle yürütülmüştür. Hazırlanan anket formu final döneminde öğrencilere verilerek uygulanmıştır. Ancak yanlış ve eksik doldurulduğu belirlenen anketler çıkarılarak sayı 1286'ya düşürülmüştür. Toplanan anket formlarının analizden öğrencilerin Web tabanlı değerlendirme (WBA) sistemine yönelik cinsiyet ve sınıf değişkenlerine bağlı olarak tutumlarında anlamlı farklılık belirlenemezken, sınav süresi, sınavların mekan bağımsızlığı ve sınav sisteminin kullanımının, cinsiyet değişkeni ile ilişkilendirilmesine yönelik yapılan Ki-Kare bağımsızlık testi sonucunda tüm guruplar arasında anlamlı farklılık olduğu belirlenmiştir.

Anahtar Kelimeler: Uzaktan eğitim, e-sınav, din eğitimi, multimedya

* Yrd. Doç. Dr., Dicle Üniversitesi, Ziya Gökalp Eğitim Fakültesi, Bilgisayar ve Öğretim Teknolojileri Eğitimi Bl., basaranb@gmail.com.

** Corresponding author. Öğretim Görevlisi, Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi, mumanenator@gmail.com

*** Yrd. Doç. Dr., Dicle Üniversitesi, Ziya Gökalp Eğitim Fakültesi, Tarih Anabilim Dalı, serkan@dicle.edu.tr

Introduction

The development of education technologies brings about new dimensions especially to teaching and learning processes. The goal of education is not only to have students become literate but also to develop their rational thinking, knowledge, skills and self-efficacies. For this purpose, it is necessary to use effective and innovative instructional methods (Shelly, Cashman, Gunter&Gunter, 2006). Developments in technology now have influence on studies carried out in the field of education. When viewed from the perspective of higher education, Information and Communication technologies (ICTs) have facilitated communication with people, cooperation and access to sources and services especially thanks to Internet technologies. Faculty members should have positive attitudes towards the use of Information Communication Technologies (ICT) in class. On the other hand, using ICTs alone will not be sufficient. On the other hand, using ICTs alone will not be sufficient. Consequently, all these developments helped organize the learning environments and diversified the use of instructional materials (Akkoyunlu and Yilmaz, 2005). In order to increase this quality, ICTs should be integrated into educational activities attentively (Lipponen& Lallimo, 2004; McPherson & Nunnes, 2008). For this reason, the faculty members should organize their lessons by using various teaching methods based on most developed education technologies. They can also create, author and publish web-sites, simulations, e-books and other similar instructional materials with the help of the computer. In this way, use of ICT in the teaching and learning process will have a more important place in class when compared to the traditional method of teaching. Technological tools used in universities such as the overhead projector, slide projector and television have now been replaced by the computer with access to the Internet. Educators can follow new instructional techniques with the help of technological tools and make learning environments more interesting. Also, students can do research by reaching the necessary information rapidly and achieve meaningful learning by increasing the learning activities.

Basically, the development of the Internet and web technologies contributes to students' learning in the process to a great extent (Ruiz & Ferro, 2017). As faculty members' duties and responsibilities have gradually become more complex, use of education technologies is regarded as one of solutions to help teaching. Educators should not only know how today's digital students learn but also, and more importantly, be aware of how to increase the quality

of learning. The teaching and learning approaches that change parallel to the technological and scientific developments have contributed to learning environments and brought about learning environments with multimedia (Akkoyunlu & Yılmaz, 2005).

What is multimedia?

When words forming the term “multi-media” are examined, it is seen that the word “multi” means having more than one form and that the word “media” refers to the environment in which the information is transferred (Akkoyunlu & Yılmaz, 2005). According to Hofstetter (2001), multimedia refers to use of the computer to provide users with links, tools, graphics, texts, audios and videos which allow establishing interaction and communication with the users. In other words, multimedia refers either to a multiple sense interactive application including the combination of various digital media or to presentation to an audience to transfer information (Damodharan & Rengarajan, 2007). In addition, multimedia use is a part of components necessary to complete the interactive communication process. In addition, it is also defined as the presentation of applications to participants by using various digital media combinations to address multiple sense organs (Damodharan&Rengarajan, 2007; Butcher-Powell, 2005). In short, multimedia can be regarded as the presentation of a material in different forms with the support of pictures and texts, or according to Smith’s (2002) definition, as an environment of information formed with combination of texts, audios and pictures in a digital environment using the necessary software (Akkoyunlu and Yılmaz 2005). Mayer (2001), who put forward the Consumer Multimedia Learning Theory as a sub-structure for designing multiple learning environments, defines multimedia as the presentation of a material in more than one form with the support of pictures and texts. In this respect, a PowerPoint presentation, a film on TV, an animation prepared in computer can be given as examples of multimedia (Akkoyunlu and Yılmaz 2005).

Advantages of Multimedia use

While transmitting a message prior to the use of technology, the teacher was the source sending the information or the messages and the student was the receiver of that information and of the messages. In this model, the educator used to transmit the message with the help of chalk, speech and the overhead projector. The model was a method used by all institutions as an instructional strategy for years (Domodrahan&Rengarajan ,2007). According to the model, basically, the teacher tended to control the whole teaching process, to transmit the content to the class and to emphasize the factual information. In other words, the teacher presented the course content, and the students followed the lessons. In this model, students were passive learners, and they thus had a trivial role in the learning process. The traditional course approach in class

is still used commonly by a number of instructors at most universities. In this method, students, who have absolutely passive roles in learning, lose their motivation in 15 to 20 minutes (Damodharan&Rengaralu, 2007). Some of the restrictions of the traditional method can be summarized as follows:

- Information is transmitted in class via chalk and speech.
- Teachers speak for about one hour in total during the lessons without being aware of their students' responses and the related feedback.
- Students make use of only the class notes and course books as instructional materials.
- In the teaching and learning process, the focus is on the "plug and play" method rather than on practice.
- There is not enough interaction between students in class.
- Mostly, theoretical information is given about real life issues.
- Learning is based on memorization.

• In order to overcome the problems in question and to increase the quality and effectiveness of instruction, multimedia tools can be used. Use of multimedia in the teaching and learning process will not only increase students' interest in courses but also to enjoy the lessons. Cairncross and Mannion (2001) point out that multimedia use has the potential to create high-quality learning environments. The basic role of multimedia use is to take control over users during the transmission of information, to create interactions between them and to develop the learning process.

• Nowadays, multimedia-based learning has become more and more popular. The method provides both teachers and students with a number of advantages.

• The opportunities provided by multimedia in the teaching and learning processes can be summarized as follows (Akpınar, 1999):

- Testing, examining, discovering and researching the information.
- Providing feedback in various ways.
- Responding to study needs and individual learning as in other useful Computer-Aided Educational software.
- Controlling the interactive video programs and examining them in an appropriate pace and way.

- Supporting the traditional learning materials.
- Drawing students' interest and attention and increasing their motivation.
- Directing, controlling and assessing the learning activities.
- Developing the problem-solving skills.
- Integrating video conferences and allowing individuals in different places to communicate with each other.

Multimedia Use in Religious Education

Instructional methodology is considered to be one of the most important processes in education (Arifin, 2004). According to El-Syaibani (Ahmad Yunus Kasim & Ab. Halim Tamuri, 2010), use of instructional methods can be regarded as guided activities organized related not only to the subject being taught but also to the students' characters, knowledge, interests, attitudes, values and learning environments. Success cannot be achieved in religious education without any goals and objectives while determining the instructional strategy.

El-Abrashi (Airfin,2004) points out that mastery of course subjects helps determine the instructional methodology to be followed. A teacher, before going into class, should prepare a lesson plan to reach the course objectives. Instructional methods used in religious education require renovation. Current advances in educational science should not be considered to be separate from religious education. For this reason, constant development of instructional methodology to be used in religious education will contribute positively to religious education in moral as well as physical aspects.

Al-Attas (1980), who conducts research on Islamic education, defines this education as a process for training a person as a whole in rational, psychological and social aspects. The purpose of Islamic education is to develop the physical conditions of life and to help students of Islamic education shape their actions, attitudes and decisions regarding life in line with the ethical and spiritual values of Islam (Mudawi, 1989, Pryor&Rasekh,2004).

On the other hand, it is necessary to use the instructional method appropriately so that Islamic values can be best understood in the Islamic education process. Therefore, an instructor can be quite knowledgeable, but if he or she does not know how to present that knowledge, this might result in

a serious deficiency. For the instructor to be successful, he or she may have to use more than one instructional technique (İsmail,1997).

In one of few studies conducted regarding the ICT use in Islamic Education with 82 Islamic Education teachers from a secondary school giving religious education in Pahang State, İsmail (2006) reported that the teachers had a moderate level of computer use skills and understanding. In another study, Sardi (2007) found that the distance education portal by the researcher motivated the students for learning. In addition, the portal was found to help the students with their learning on their own and to be appropriate to the instructional materials. Also, Tamuri and colleagues (2004) stated that most of the secondary school students were interested in the student-centered activities presented via the distance education website prepared by the researchers. Moreover, it was found that the students preferred to use the website in the course of Islamic Activities for quizzes, study groups, group discussions, memorization of Quran verses, films, videos and puzzles, respectively. Mainly, use of Web in teaching and learning is considered to be a part of ICT in education. It should be remembered that an ideal class environment will increase students' knowledge with the help of ICT.

In Islamic education, memorization and teacher-centered learning are quite popular among teachers. When instructional activities regarding Theology education are examined, it is seen that the applications are generally limited to the teacher, classes and course books. However, learning theories point out that there is a need for systematic approach to teaching-learning processes and that educational environment should be considered in a comprehensive manner different from the notion of teacher-class-coursebook (Bilgin& Selçuk, 1995). Previously, most practices in religious education used to be verbal. However, following the application of the structural system, the understanding of education differed from the traditional system, and several renovations appeared in relation to instructional methods. This wind of change has influenced education as well.

In effective religious education, appropriate conditions should be provided for students to achieve effective learning. The fact that religious education includes a process influential on almost all the phases of human life and that there is a need for success in this process causes the understanding of education in this field to be more scientific and collective (Taştekin, 2008). Religious education has a complex structure because it covers not only teaching Islam but also giving education regarding other religions. The Internet

and computer can also be used in different fields of religious education. As computer use in education will be more common in future, instructors should immediately take the necessary precautions and develop themselves accordingly. One of the most important roles of multimedia in the teaching-learning process is that it concretizes the ideas and simplifies the facts and events difficult to understand. In religious education, which includes quite a lot of abstract concepts, multimedia-based teaching has many benefits.

Use of PowerPoint in Islamic Education

Microsoft PowerPoint software is used to present a certain subject to a group of individuals with the help of a computer. In the past, for such presentations, a number of tools like films, photos, acetate, overhead projector and projectors were used. Today, more vivid and dynamic presentations can be prepared thanks to the texts, graphics, and clipart objects, pictures, videos and audios found in PowerPoint slides (Güneş, 2003). With these features, PowerPoint can be considered by faculty members to be one of the utilities that can be used for interesting and effective teaching. Different from whiteboards and written documents, PowerPoint slides allow faculty members to present the course content regularly in small parts. Use of colors in slides helps draw the attention to important headings and points during the lessons. Presentations strengthen students' learning processes and develop their analysis and synthesis skills. In most departments of universities and in many classes, presentations are used as an instructional tool.

Surveys conducted with students demonstrate that classes taught via PowerPoint increase students' motivation as well as the influence of visual stimulation on them and that they can understand the lessons better (Çankaya & Dinç, 2009; Akdağ & Tok, 2010; The Ohio State University, 2004). Bartsch and Cobern (2003) investigated whether teaching with PowerPoint had more positive influence on students' interests and on their learning than teaching with the help of the overhead projector. The results they obtained revealed that classes taught with PowerPoint presentations were more influential when compared to the classes taught with the help of the overhead projector. Also, the researchers comparatively examined the effects of the animations and pictures relevant or irrelevant to the subject in the PowerPoint presentation on the permanence of students' learning. To conclude, the presentations including the subject-related animations and pictures were more influential on the permanence of learning.

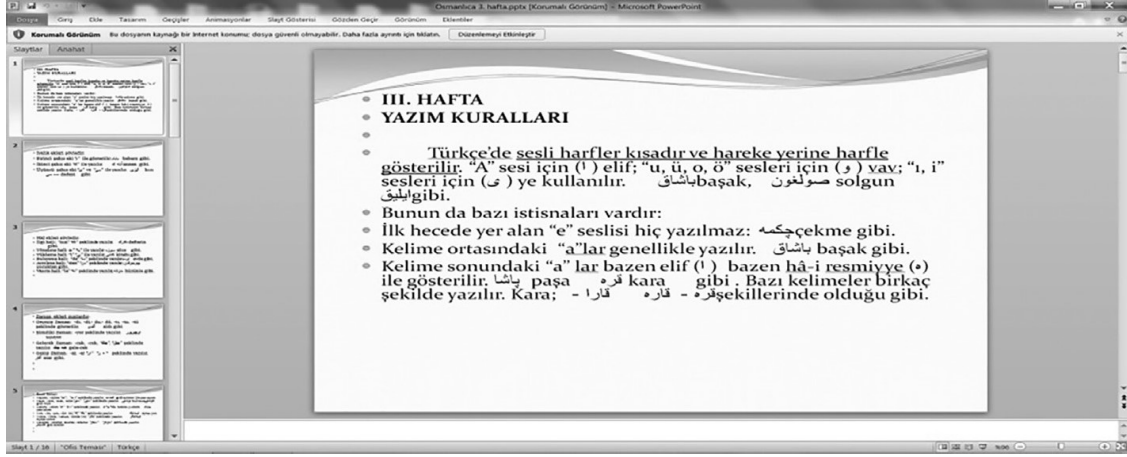


Figure 1. Teaching with PowerPoint

Learning with Video

Use of scientific videos in educational environments is defined as a pedagogical tool. In addition, use of such videos is also considered to be quite an effective tool for combining theory and practice (Hagen, 2002). It is pointed out by researchers that use of videos (or films) in educational environments has many benefits:

- i. *Cognitive benefits* (good learning, keeping in mind, remembering),
- ii. *Psychological benefits* (motivation, enjoying learning)
- iii. *Easy visualization of information.*

Use of videos in the learning process helps students not only carry out meaningful intellectual activities but also envisage abstract concepts (Pekdağ, 2010). Videos help students develop cognitive skills like interpretation, critical thinking and problem solving (Hagen, 2002). In addition, these videos help students not only keep scientific information in their minds but also remember the important points easily (Masats & Dooly; 2011). Use of videos as an instructional material has positive influence on students' motivation (Zhang et.al., 2006) and allows students to focus on the subject to be taught (Duchastel, Fleury & Provost, 1988). Furthermore, it is also important to use videos in educational environments because they help overcome the difficulties in observing instant scientific events as well as because they allow students to see the scientific events explained orally by the teacher (Robles, 1997).

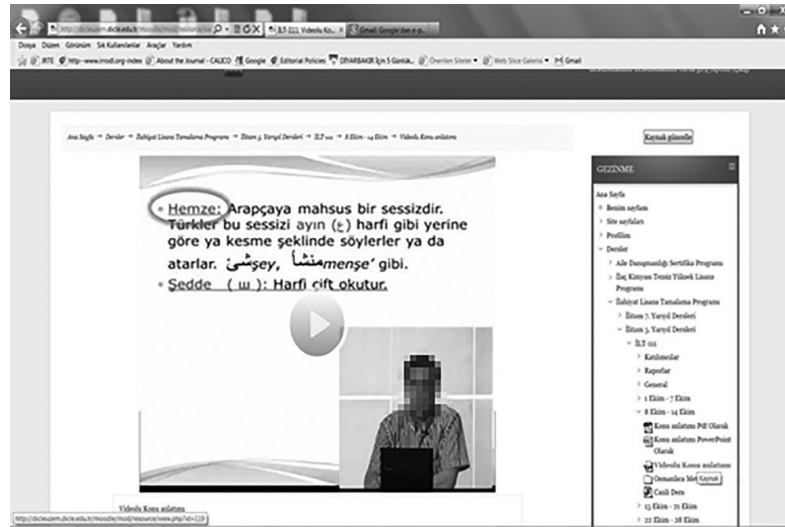


Figure 2. Video-aided teaching

SCORM

Thanks to the integration of technology into education, plain-text materials are not efficient any longer. Learning Management Systems (LMS) have now replaced the monotonous and rigid methodology in education. SCORM is a standard that presents high-quality educational materials for online courses and developed the preparation of advanced contents (Gonen & Başaran, 2008). In other words, SCORM is a resource model created with the adaptation of standards developed to make an educational software program durable, reusable and accessible as well as to make it work with other software programs (Doruk, 2006). While creating this model, ADL, AICC, IMS GLC and IEEE-LTSC organization worked. With SCORM, the purpose was to gather the e-learning standards in a common model which were developed by different organizations. SCORM is a model developed for contents distributed via the web. Since its purpose is to allow accessing the content and maximizing its reuse, the web was favored as the fastest method of distribution and access. Learning Management System (LMS) can be used not only as simple structures developed for the management of educational content packages and software but also as complex structures working with other managements systems of a corporate. According to SCORM, LMS is defined as web-based environments capable of managing and making educational contents accessible to users. LMS knows what users will reach and when they will reach it and follows what users do during their travel within the educational content. SCORM aims at presenting the ideal content development model that allows working in cooperation with LMS (Türel, 2008). In addition, SCORM provides such opportunities as access to the web-based learning content, working in different platforms, mobility,

durability against technological changes, reusability and adaptation of the education content to individual and organizational needs. Thanks to this, small and reusable learning objects called Sharable Content Object which are independent of any LMS can be created, and these SCORMs can be aggregated in different organizations (for example, courses) (Balci,2007).

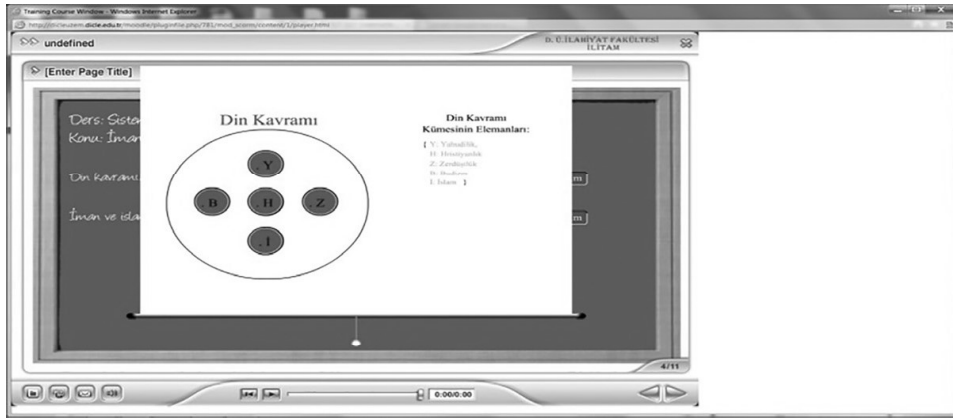


Figure 2. Video-aided teaching

Web Conference Systems

A video conference system is a simultaneous technology which allows simultaneous face-to-face interaction via audios and videos and which provides an online student with a direct and intensive learning experience (Bower, 2012). A video conference system can contribute to its users' cooperative learning, their motivation as well as their real-time interaction. The facilities provided in a simultaneous virtual class help faculty members maintain interaction during a synchronous session. In their study examining the importance of interaction in a synchronous virtual class, Martin and colleagues (2012) found that the synchronous virtual class strengthened live communication. With the help of the web conference method, faculty members can manage student surveys and share their desktops via related sharing applications. In this way, faculty members and students can see and communicate with each other during a lesson. In addition, the backups of all virtual class sessions can be made to use later or to allow watching the sessions again.

With the use of web conference tools, such cooperative learning environments as whiteboard and simultaneous screen sharing, chatting and sharing files and surveys with user groups via one's own web browser can be created. Almpans, Miller, Ross, Priceve and James defined synchronous web conference environments as a digital version of virtual classes and class meetings. Interaction occurs with the help of different methods like written

chat, audio and video flows and desktop sharing (Steed&Vigrass, 2011). Among its typical functions is showing PowerPoint presentations, publishing audios and videos with a web camera, sharing files, voting, sharing the common points and drawing on whiteboard cooperatively (Bower, 2012). Also, viewing the visual materials via screen sharing could increase learning experiences considerably (Steed&Vigrass, 2011). Use of web conference systems can be considered to be a response to the need for increasing students' interests and motivations (Spanier, 2011). Web conference systems geographically provide opportunities for establishing communication between students (Reushle&Loch, 2008). Universities now develop consistent strategies increasingly regarding web conference systems within their own bodies. Dicle University has made its all education programs available via Adobe Connect web conference system. Despite the growing use of these systems in recent years, there is a need for more in-depth and detailed studies to make pedagogically healthy and effective use of these systems.

Use of Electronic Multiple-Choice Exams in Theology Education

In all education processes, assessment of students' achievements has always been a matter of debate. It is reported that students are not satisfied with most of the assessment methods applied at the end of their education (Shepard, 2016). In addition, assessment of students in the education process is in the heart of the curriculum, and it provides opportunities to measure and monitor the development of individuals in their learning process. Assessment executed for students has always been influenced by oral and written exams as well as by the traditionally tested approaches to multiple-choice exams (Bolat et.al., 2016). Moreover, most types of assessment can be adopted and organized within the context of learning by integrating technology. Developments in the field of technology have also changed learning environments and pedagogical approaches. The increasing number of simulations, use of social networks to facilitate group learning via communication with students and application of virtual class technologies increase students' learning experiences.

Multiple-choice exams are increasingly used in higher education to complement or change current assessment applications (Nicol, 2007). This method of assessment has gradually become prevalent in higher education in line with the increasing number of students, the decreasing number of sources, increased modularity and the increasing number of web-applications. Multiple-choice exams (MCE) provide faculty members with great advantages since these exams not only allow students to provide instant feedback and allow saving time and working with fewer staff. Besides this, the web also provides more flexibility in terms of preparing and responding to MCEs and

reporting the exam results. When compared to traditional system of MCEs, use of this exam method in computer-aided distance education provides important advantages in terms of getting the results of exams given to big piles of students (Bull & Mc Kenna, 2004)

Although multiple-choice tests are prevalently used in higher education, it is reported that there are a number of restrictions in this method (Yan, 2006). Many researchers claim that these exams develop memorization instead of testing upper-level cognitive processes (Olayemi, 2013). In addition, some other researchers state that this depends on how the tests are executed and that the tests can be used to assess learning at higher cognitive levels. Another important point is to determine the feedback provided via MCEs prior to the preparation of the tests. Therefore, there is little space to customize the feedback based on students' needs. MCEs require recognition of the correct answer rather than selecting the correct choice among the alternatives. For this reason, this method of testing should be supported in terms of encouraging the students and participants to take a more active role in the assessment phase as well as with respect to how to develop these skills.

Purpose

The purpose of this study was to determine the students' attitudes towards the interactive mid-term exams conducted within the scope of TDUEP in the Distance Education Center of Dicle University. Faculty members want to evaluate the activities or the exams they have designed for TDUEP students. In addition students' views play an important role within the framework of pedagogical assessment.

Method

The present study was conducted using the survey model to determine the attitudes of students registered to TDUEP in the Distance Education Center of a state university towards the exam system found in the learning management system of MOODLE. Survey model aims at describing events as they exist (Karasar, 2008). Analysis of the data collected via the attitude scale developed helped reveal the views of the students participating in the study about the exams executed via the related web site.

Study Group

The study was conducted with a total of 1286 students registered to the Distance Education Center of a state university in the Fall Term of the academic year of 2016-2017. Of all the participants in the study, 586 of them were female, and 700 of them were male. In addition, among all the students, 722 of them were 3rd grade students, while 564 of them were 4th grade senior students.

Table 1. Distributions of the Percentages and Frequencies regarding the variables of Gender and Class Grades of the TDUEP students

Gender	f	%
Female	586	45,57
Male	700	54,43
Class Grade		
3 rd Grade	722	56,14
4 th Grade	564	43,86
Total	1286	100

Data Collection Tool

The attitude scale used in the study was the WBA system MOODLE attitude scale developed by Basaran, Yalman and Gonen (2016). The scale included two parts. The first part aimed at determining the demographic information about the students, and the second part was the attitude scale made up of 16 items. The Cronbach Alpha value of the WBA system (MOODLE) attitude scale was reported to be ,873, while it was calculated as ,962 in the present study.

Data Collection

In order to collect the research data in the study, questionnaire forms were used. The study was conducted with students taking the TDUEP education via the distance education method in the Fall Term of the academic year of 2016-2017. The students were asked to fill out the questionnaires distributed to them during their end-of-year exams. Of all the 1500 students registered to the system, 1286 of them responded to the questionnaire.

Analysis of Data

For the analysis of the data collected via the questionnaire filled in by the TDUEP students, the package software of SPSS-18 was used. In the data collection tool, "I Completely Disagree" was scored as "1", "I don't Agree" as "2", "I Partly Agree" as "3", "I Agree" as "4", and "I Completely Agree" as "5". During the analysis process, independent groups t-test and Chi-Square independent test were applied.

Findings

This part presents the findings in Tables obtained via the analysis of the questionnaire data regarding the students' views about the web exam system. In order to determine whether the students' gender distributions included any significant difference regarding the exam system, t-test was conducted.

Table 2. Independent Groups t-test Results regarding the exam system for the TDUEP students with respect to the variable of gender.

Gender	N	X	SS	Sd	t	p
Female	586	3,69	0,69	1285	-1,391	.164
Male	700	3,75	0,85			

The results did not reveal any significant difference between the students' attitude mean scores regarding the WBA (Web Based Assessment) system with respect to their gender ($p>0,05$).

Table 3. Independent Groups t-test Results regarding the exam system for the TDUEP students with respect to the variable of class grade

Class Grade	N	X	SS	Sd	t	p
3 rd Grade	722	3,74	0,78	1285	1,015	.310
4 th Grade Senior	564	3,69	0,78			

The results did not reveal any significant difference between the mean scores of the students' attitudes towards the WBA system with respect to their class grades ($p>0,05$).

Table 4. Results of Chi-Square Independence Test conducted to determine the relationship between the variable of gender and the time allocated to the exams for the TDUEP students

Exam Duration	Is the duration for the exams executed via the eWBA system enough?		Total	X ²	Sd	p
	Male	Female				
I find it enough	50	28	78	25,187	4	,000
I find it partly enough	79	103	182			
	224	195	419			
I don't find it enough at all	182	172	354			
It is not enough	165	88	253			
Total	700	586	1286			

According to the results of the Chi-Square independence test conducted to determine the relationship between the variable of gender and whether the TDUEP students found the durations enough which were determined for the exams executed via the WBA system, the relationship between the variables was found statistically significant ($X^2=25,187$; $p<.05$). This result demonstrates that there was a relationship between the TDUEP students' gender and the time allocated in the WBA system.

Table 5. Results of Chi-Square Independence Test conducted to determine the relationship between the variable of gender and the physical setting of the exams given to the TDUEP students via the WBA system

Place	Taking the exam in any place I want		Total	X ²	Sd	p
	Male	Female				
It is not necessary	28	11	39	17,653	4	,001
It doesn't matter	21	23	44			
I don't know	175	130	305			
It makes me feel in comfort	222	242	464			
It is very good	254	180	434			
Total	700	586	1286			

According to the results of the Chi-Square independence test conducted to determine the relationship between the variable of gender and the physical setting of the exams given to the TDUEP students via the WBA system, the relationship between the variables was found statistically significant ($X^2=17,653$; $p<.05$). This result demonstrates a relationship between the participants' gender and the variable of independence of place for the exams conducted via the WBA system.

Table 6. Results of Chi-Square Test conducted to determine the relationship between the variable of gender and the TDUEP students' use of the exams conducted via the WBA system

Use of Exams	Is it difficult to use the WBA system?		Total	X ²	Sd	p
	Male	Female				
It is not difficult	64	32	96	36,901	4	,000
It is partly difficult	108	151	259			
I don't know	228	180	408			
It is difficult	175	163	354			
It is very difficult	125	60	185			
Total	700	586	1286			

According to the results of the Chi-Square independence test conducted to determine the relationship between the variable of gender and the TDUEM students' use of the exams conducted via the WBA system, there was a statistically significant difference between the variables ($X^2=36,901$; $p<.05$). This result demonstrates a relationship between the participants' gender and their use of the exams conducted via the WBA system.

Discussion and Conclusion

In this study, the purpose was to determine technology use and attitudes of TDUEP students towards the exam module of the Learning Management System that they used for their education. Digital learning tools have great importance for the development of education. In recent years, use of digital learning tools has increasingly developed.

In the study, independent groups t-test was conducted on the data collected from the TDUEP students to determine whether there was any significant difference with respect to the variable of gender, and the results did not reveal any significant difference. In studies conducted in related literature to compare students' views about the WBA system, researchers did not find any significant difference based on the variable of gender (Basol & Balgamis, 2016; Bennett, 2015; Yurdabakan & Uzunkavak 2012; Bennett et.al., 2008). In this respect, the results of these studies are consistent with the findings obtained in the present study. In one study providing empirical evidence regarding the benefits of computer-based tests, Leeson (2006), reported that computer-based and paper-and-pen tests do not demonstrate the same test performance. In the study, the researcher found that both female and male participants had positive attitudes towards the WBA system and that the social environment had influence on the attitudes of both men and women towards the WBA system. In addition, it was revealed in that study that the female users emphasized the user-friendliness of WBA, while the male users focused on the benefits of the system. In another study, Yurdabakan & Uzunkavak (2012) investigated elementary school students' attitudes towards computer-aided testing and assessment with respect to certain variables and found no significant difference between the attitudes of students from different schools towards the WBA system in terms of gender. Also, other studies revealed that both male and female students had positive perceptions regarding WBA (Bebetos & Antonio, 2008; Ayo et.al., 2007).

In the light of the results obtained via the independent groups t-test conducted to determine whether there was a significant difference regarding

the TDUEP students' data with respect to the variable of class grade, no significant difference was found. According to studies in related literature, upper-grade students had higher levels of motivation experienced fewer problems in relation to the system because they had more experience in the system when compared to their lower-grade peers (Bennett et.al., 2008; Pomplun et.al., 2006; Punpin & Custer, 2005). In their study, Lee and colleagues (2012) evaluated the effectiveness of online mastership exams regarding the development of learning and preparation levels for dentistry students' examination of anatomy. The dentistry students taking the course of Anatomy at Ohio State University were exposed to web-based exam sessions prepared five days before each examination. The results of the independent groups t-test revealed no significant difference regarding the dentistry students' class grades.

According to the results of the Chi-Square independence test conducted to determine the relationship between the variable of gender and the TDUEP students' views about the durations of the exams conducted via the WBA system, there was a statistically significant relationship between the variables. Web-based exams could increase students' interest and attention, which could then create a stimulating effect since these exams are visual compared to paper-and-pen exams (EdTech, 2005). Students could get more motivated for web-based exams than they are for paper-and-pen exams as they feel themselves in more comfort in digital environments (Rotermann, 2001; Statistics Canada, 2004). In one study with 12 university students, Johnson (2006) encouraged the participants to take web-based exams to prepare themselves for the advocacy exam. While in-class exams assessed the four cognitive domains, they did not include any multiple-choice elements: phenomenon, practice, understanding and comprehension. In general, only a few students made comprehensive use of the optional web-based exams, and most of the students did not find WBS useful. The formative WBA, which develops effective learning, is regarded as one of factors increasing the benefits of providing instant feedback (Lee et.al., 2012).

According to the results of the Chi-Square independence test conducted to determine the relationship between the variable of gender and the TDUEP students' use of the exams conducted via the WBA system, there was a statistically significant difference between the variables. In their study, Reid and colleagues (2016) used quantitative methods regarding the acceptability and preference of computer-aided tests and the responses to multiple-choice

questions in undergraduate nursery education. The results revealed that it was easy to use the WBA system and that there was a need for longer time to respond to the questions than the time allocated, though.

According to the results of the Chi-Square test conducted to determine the relationship between the variable of gender and the TUDEP students' views about the independence of place for the exams conducted via the WBA system, there was a statistically significant relationship between the variables. Considering the probability that the TDUEP classes might include hundreds of students, it does not seem possible for the faculty to meet and guide students personally. In addition, when the variety of the students' academic backgrounds is taken into account, it could be stated that WBA helps meet these needs to a great extent. Assessments that can be carried out for students at a time and place appropriate to them help them avoid the exam anxiety (Terzis et.al., 2013).

The word multimedia refers to systems which involve the use of audios, texts, pictures, videos and so on. These systems can be used not only in all such areas as economics, media and politics but also frequently in distant religious education. Multimedia elements that facilitate learning by addressing more than one sense organ should be an element to be used frequently in distant religious education, and these elements should constantly be developed in time. In the learning process, experiences of an individual are more important than anything. These experiences occur as a result of interactions with the learning environment. For permanent learning, the importance of interaction and stimulants in this environment is beyond argument. The only concept which is designed for learning environments and which aims at more than one sense organ is the multimedia. For this reason, it should be an element which can be frequently used in almost all educational areas and which is supposed to be used in distant religious education as well. Today, multimedia elements are included in most educational materials. Multimedia elements, which make the instructional subject easier and more interesting and concrete to learn are especially effective for university students. When university faculty members teach subjects by using e-materials supported with multimedia elements, students understand these subjects more easily. The reason is that subjects taught and reinforced also with virtual reality are easier to learn, and learning thus becomes more permanent. When university faculty members use multimedia elements, they use their time more efficiently and get less tired thanks to the easier evaluation phase. As it is in all the classes taught in universities, it is thought that use of e-materials equipped with multimedia elements will lead to positive results in web-aided religious education

courses. Multimedia elements have quite important functions especially in concretizing the abstract concepts difficult to teach and understand, in making subjects more interesting and in making classes favorable for students.

Suggestions

In this study, which examined the effectiveness of WBA and of the multimedia-aided teaching in TDUEP courses given in higher education, it is thought that use of multimedia-aided course materials in lessons could be more effective on students' achievement when compared to traditional methods of teaching. Based on the research results, the following suggestions could be put forward.

- In teaching certain subjects in Distant Education Theology Undergraduate Education courses, multimedia-aided course materials should be used instead of traditional teaching.
- Distant education courses should be used with the support of videos, PowerPoint, e-books, SCORM-compatible e-lessons and synchronous lessons.
- By having students participate actively in classes and encouraging them to use the multimedia course contents, they could develop organized views about subjects.
- Use of multimedia presentation materials could be examined to reveal whether they are effective in teaching different courses to different groups of students.
- In WBA applications, it is necessary to provide good technical support since it is possible that novice students may experience problems in using the system, in navigating between questions as well as in checking the exams they have taken before.
- Good servers with a wide band used while executing web-based exams could help avoid possible technical problems

Reference

- Ahmad Yunus Kasim & Ab. Halim Tamuri. (2010). Pengetahuan pedagogikal (PPK) pengajaran anakid ah: Kajian kes guru cemerlang pendidikan Islam. *Journal of Islamic and Arabic Education*, 2 (2), 13-30.
- Akdağ, M., & Tok, H. (2010). Geleneksel öğretim ile powerpoint sunum destekli öğretimin öğrenci erişisine etkisi. *Eğitim ve Bilim*, 33(147), 26-34.
- Akkoyunlu, B., & Yılmaz, M. (2005). Türetimci çoklu ortam öğrenme kuramı. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 28, 9-18.
- Akpınar, Y., (1999). *Bilgisayar Destekli Öğretim ve Uygulamalar*, Anı Yayıncılık, Ankara
- Al-Attas, Muhammad Naquib. (1980). The concept of education in Islam: a framework for an Islamic philosophy of education. Kuala Lumpur: *Muslim Youth Movement of Malaysia (ABIM)*.
- Almpanis, T., Miller, E., Ross, M., Price, D. & James, R. (2011). Evaluating the use of web conferencing software to enhance flexible curriculum delivery. In C.A. Shoniregun & G.A. Akmayeva (Eds), *Proceedings of the Ireland International Conference on Education (IICE-2011)* (pp. 317-322). Dublin: IICE.
- Arifin Bin. Mamat. (2004). Quranic pedagogy and its practices in the teaching of the arabic language. In *The International Islamic University Malaysia Matriculation Centre*. Unpublished doctoral dissertation, University of Birmingham.
- Ayo C. K., Akinyemi, I. O, Adebisi, A. A., & Ekong, U. O. (2007). The prospects of e-examination implementation in Nigeria. *Turkish Online Journal of Distance Education-TOJDE*, 8(4), 125-134.
- Balci, B., 2007, Web-Tabanlı Uzaktan Eğitim ve Bir Altyapı Tasarımı, Doktora Tezi, Ege Üniversitesi, 182s.
- Bartsch, R. A. & Cobern, M. K. (2003). Effectiveness of PowerPoint Presentations in lectures. *Computers & Education*, 41, 77-86.
- Basol, G., & Balgalmis, E. (2016). A multivariate investigation of gender differences in the number of online tests received-checking for perceived self-regulation. *Computers in Human Behavior*, 58, 388-397.
- Bebetos, C, & Antonio, S. (2008). Why use information and communication Technology in schools? Some theoretical and practical issues. *Journal of Information Technology for teacher education*, 10(1and2), 7-1.
- Bennett, R. E. (2015). The Changing Nature of Educational Assessment. *Review of Research in Education*, 39(1), 370-407.
- Bennett, R.E., Braswell, J., Oranje, A., Sandene, B., Kaplan, B., & Yan, F. (2008). Does it matter if I take my mathematics test on computer? A second empirical study of mode effects in NAEP. *Journal of Technology, Learning, and Assessment*, 6(9) 1-39.
- Bilgin, B. & Selçuk, M. (1995). *Din Öğretimi Özel Yöntemleri*, Ankara: Gün Yayınları, s 159.
- Bolat, E., Dogan, H., Biggins, D., Dupac, M., & Crowley, E. J. (2016). Empowering University Students Through Online Multiple Choice Questions.
- Bower, M. et al. (2012) 'Use of media-rich real-time collaboration tools for learning and teaching' in *Australian and New Zealand universities, Conference Proceedings: Ascilite Conference*.
- Bull, J. & McKenna, C. (2004) *Blueprint for computer-assisted assessment* (London, Routledge-Falmer).
- Bulent, B., Murat, Y., & Selahattin, G. (2016). Attitude scale towards web-based examination system (MOODLE)-Validity and reliability study. *Educational Research and Reviews*, 11(17), 1641-1649.

- Butcher-Powell LR (2005). Teaching, Learning and Multimedia. In S.Mishra& R.C. Sharma (Eds). *Interactive Multimedia in Educationand Training*. London: IdeaGroup Publishing.
- Cairncross S andMannion M (2001) 'Interactive Multimedia and Learning: RealisingtheBenefit-sInnovations' *EducationandTeaching International* 38 (2), pp56-64
- Çankaya, F., & Dinç, E. (2009). powerpoint ve klasik usulde muhasebe eğitimi alan öğrenciler arasındaki farklılıkların tespiti: Karadeniz Teknik Üniversitesinde bir araştırma.
- Damodharan VS, Rengarajan V (2007). Innovative methods of teaching. Paper presented at Learning Technologies and Mathematics Middle East Conference, Sultan Qaboos University, Muscat, Oman. Available online at http://math.arizona.edu/~atp-mena/conference/proceedings/Damodharan_Innovative_Methods.pdf
- Doruk, Z. (2006). "Nesne Tabanlı e-Öğrenme Yazılımları için Bir Basvuru Modeli: SCORM". Access Date: <http://e-learningtalks.com/2006/05/07/nesnetabanli-eogrenme-yazilimlari-icin-bir-basvuru-modeli-scorm/> (02.6.2009)
- EdTech. (2005). Online quizzing. *Effective use of online course tools*. Available at <http://www.edtech.vt.edu/edtech/id/ocs/quizzes.html>
- Gonen, S., & Basaran, B. (2008). The New Method of Problem Solving in Physics Education by Using SCORM-Compliant Content Package. *Online Submission*, 9(3), 112-120.
- Güneş, A. (Ed.). (2003). *Temel Bilgi Teknolojisi Kullanımı*. Ankara: Pegem A Yayıncılık
- Hagen, B. J. (2002, March). Lights, camera, interaction: Presentation program sand then interactive visual experience. *Paper presented at the Society for Information TechnologyandTeacherEducation International Conference*, Nashville, TN.
- Hofstetter FT (2001). Multimedia literacy (3rd Ed.). New York: McGraw-Hill/Irwin.
- Ismail, Zaidi. (2006). "Kesediaan terhadap penggunaan komputer di kalangan guru-guru pendidikan Islam: Kajian di sekolahsekolah menengah agama negeri Pahang." MEd. Diss., Universiti Kebangsaan Malaysia
- Ismail, Sha'banMuftah. (1997). Teachertrainingprogrammes: A model for producing a successful teacher. *Muslim Education Quarterly*, 14 (3), 36-56.
- Johnson, G. M. (2006). Optional online quizzes: College student use and relationship to achievement. *Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie*, 32(1).
- Jusoh, W. N. H. W., & Jusoff, K. (2009). Using multimedia in teaching Islamic studies. *Journal of Media and Communication Studies*, 1(5), 86.
- Lee, L. M., Nagel, R. W., & Gould, D. J. (2012). The educational value of online mastery quizzes in a human anatomy course for first-year dental students. *Journal of dental education*, 76(9), 1195-1199.
- Leeson, H. (2006). The Mode Effect: A Literature Review of Human and Technological Issues in Computerized Testing. *International Journal of Testing*, 6(1), 1-24.
- Lipponen, L. andLallimo, J. (2004): From collaborative technology to collaborative use of technology: Designing learning oriented infrastructures. *Educational Media International* 41(2): 111-116.
- Martin, F., Parker, M. A., & Deale, D. F. (2012). Examining interactivity in synchronous virtual classrooms. *The International Review of Research in Open and Distance Learning*, 13(3), 228-261. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/1174/2253>
- Masats, D., & Dooly, M. (2011). Rethinking the use of video in teacher education: A holistic approach. *Teaching and Teacher Education*, 27(7), 1151-1162.
- Mayer, R.E., (2001). *Mutimedialearning*, Cambridge UniversityPress. Cambridge.

- McPHERSON, M.A. and NUNES, J.M. (2008): Critical issues for e-learning delivery: What may seem obvious is not always put into practice. *Journal of Computer Assisted Learning* 24(5): 433–445.
- Mudawi, Ali K. (1989). Islamic education: Towards a comprehensive view. *Journal King Saud University*, Vol. 1, Educ. Science, (1, 2), pp. 3-14.
- Nicol, D. (2007). E-assessment by design: using multiple-choice tests to good effect. *Journal of Further and higher Education*, 31(1), 53-64.
- Olayemi, E. (2013). Multiple choice questions as a tool for assessment in medical education. *Annals of Biomedical Sciences*, 12(1).
- Pekdağ, B. (2010). Kimya öğreniminde alternatif yollar: animasyon, simülasyon, video ve multimedia ile öğrenme. *Türk Fen Eğitimi Dergisi*, 7(2), 79-110.
- Pomplun M., Ritchie, T., & Custer M. (2006). Factors in paper-and-pencil and computer reading score differences at the primary grades. *Educational Assessment*, 11(2), 127-143.
- Pryor, C. R., & Rasekh, Z. E. (2004). Iranian and U.S. Pre-service teachers' philosophical approach to teaching: Enhancing intercultural understandings. *Current Issues in Comparative Education*, Vol.7(1), Teachers College, Columbia University, December 15.
- Punpin, M., & Custer, M. (2005). The score comparability of computerized and paper-and-pencil formats for K-3 reading tests. *Journal of Educational Computing Research*, 32(2), 153-166.
- Reid, J., Robinson, D., & Lewis, C. (2016). Assessing the evidence: student response system versus computer based testing for undertaking multiple choice question assessment in undergraduate nursing education. *Pediatr Neo-natal Nurs Open J*, 3(1), 10-14.
- Reushle, S. & Loch, B. (2008). Conducting a trial of web conferencing software: Why, how and perceptions from the coalface. *Turkish Online Journal of Distance Education*, 9(3), 19-28.
https://tojde.anadolu.edu.tr/tojde31/articles/article_2.htm
- Ruiz, W., Díaz, Y., & Ferro, R. (2017). Research and Development a Web Application Management for University Students in Colombia. *International Journal of Engineering and Technology*, 9(1), 1.
- Robles, A. (1997). *La vidéo comme support didactique en physique*. Doctoral thesis, Université Claude Bernard Lyon I, Lyon.
- Rotermann (2001). Wired young Canadians. *Canadian Social Trends*, 63, 4-8.
- Sardi, M. (2007). "Pembangunan dan Penilaian Pengajaran dan Pembelajaran e-Usul Fiqh Tingkatan 4". MEd. Diss., Universiti Kebangsaan Malaysia
- Schnotz, W., Bannert, M. 2003. Construction and Interference in Learning From Multiple Representation. *Learning and Instruction*, 13(2): 141-156,
- Shelly GB, Cashman TJ, Gunter GA, Gunter RE (2006). Teachers discovery computers: Integrating technology and digital media in the classroom. Boston, MA: Thomson Course Technology.
- Shepard, L.A., 2016. "Testing and Assessment for the Good of Education Contributions of AERA Presidents", 1915–2015. *Educational Researcher*, 45(2), pp.112-121.
- Smith, L. 2002. Multimedia, what, why, how. *31N5: Multimedia and HCI*. Retrieved April 3, 2013 from
http://www.cs.stir.ac.uk/courses/IT82/Handouts/Intro2004_color.pdf.
- Spanier, G.B. (2011). Renewing the covenant: Ten years after the Kellogg Commission. *Journal of Higher Education Outreach and Engagement*, 15(3), 9-14. <http://openjournals.libs.uga.edu/index.php/jheoe/article/download/570/457>
- Statistics Canada. (2004). *Household Internet Use Survey*. Available at <http://www.statcan.ca/Daily/English/040708/d040708a.htm>

- Steed, M. & Vigrass, A. (2011). Assessment of web conferencing in teacher preparation field experiences. In M. Koehler & P. Mishra (Eds), *Proceedings of Society for Information Technology & Teacher Education International Conference 2011* (pp. 2736-2743). Chesapeake, VA: AACE.
- Tamuri, A., Sardi, M., Embi, M. A., & Shah, P. M. (2008). The Application of Islamic Web Sites: Process of Teaching and Learning of Islamic Education. *International Journal of Learning*, 14(12).
- Tamuri, Ab Halim., Yusopp, Adnan, Osman, Kamisah, Awaludin, Shahrin, Abdul Rahim, Zamri and Abdul Razak, Khadijah. *Keberkesanan Kaedah Pengajaran dan Pembelajaran Pendidikan Islam ke atas Pembangunan Diri Pelajar*. Bangi: Fakulti Pendidikan, Universiti Kebangsaan Malaysia, 2004.
- Taştekin, O. (2008). Bilgisayar destekli teknolojinin görsel sınıf projesinde dinkültürü ve ahlak bilgisine uygulanabilirliği, *Din Eğitimi Araştırmaları Dergisi*, sayı:12, 179-198.
- Terzis, Vasileios, Christos N. Moridis, and Anastasios A. Economides. "Continuance acceptance of computer based assessment through the integration of user's expectations and perceptions." *Computers & Education* 62 (2013): 50-61.
- The Ohio State University (2004). *PowerPoint: More Than a Presentation Tool*. Retrieved May 02, 2012 (deindirildi) from <http://ccl.english.ohio-state.edu/handouts/powerpoint/classroom-tips.htm>.
- Türel, Y. K. (2008). Öğrenme nesneleri ile zenginleştirilmiş öğretim ortamlarının öğrenci başarıları tutumları ve motivasyonları üzerine etkisi. *Unpublished doctoral dissertation*. *Firat University, Institute of Social Sciences, Elazığ*.
- Yan, L. (2006). The Advantages and Disadvantages of MCQ From the Angle of CET4 Reform [J]. *Journal of Guangdong Polytechnic Normal University*, 2, 030.
- Yurdabakan, I., & Uzunkavak, C. (2012). Primary school students' attitudes towards computer based testing and assessment in turkey. *Turkish Online Journal of Distance Education*, 13(3).
- Zhang, D., Zhou, L., Briggs, R. O., & Nunamaker, J. F. (2006). Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness. *Information & management*, 43(1), 15-27.