Problems Encountered by Distance Education Students in Online Test Module: A Case Study From the Distance Education Research and Application Center, Karadeniz Technical University, Turkey[*]

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This study aims to determine the problems faced by students taking an online exam during a graduate degree program administered by the Distance Education Research and Application Center, KTU (Karadeniz Technical University). The research was conducted with 106 students during the spring semester of the 2009-2010 academic years in the department of educational administration, inspection, planning and economy program (discipline) in the Institute of Social Sciences, KTU. The data obtained from e-mails of students about problems in the exam process are analyzed descriptively. The data were read twice by different researchers and then organized in codes. Themes that were revealed as a result of the compilation of encodings were put into a meaningful structure to be presented to the reader. The results showed that the following problems occurred in the process of the students taking the online exams, the students' level of computer literacy, the test environment being new to the students, the presentation of the questions in a computer environment and technical difficulties. The students' ability to use a computer is an important factor in the emergence of problems. The main outcome of the research was the need for an orientation program which will assist the students taking online exams and the online courses.

Keywords: online distance education, online exam module, online test module

Introduction

In recent years, rapid developments in science and technology have led to many radical changes in education (Akkoyunlu, 1998). Educational systems are also affected by the impact of globalization (Rizvi & Lingard, 2000). In 1992, Peter Drucker commented that "Schools and universities will change more drastically than they have since they assumed their present form 300 years ago when they organized themselves around the printed book" (Levine & Sun, 2002, p. 3). Particularly, as a result of rapid developments in computer technology and the Internet, its use in education has produced the concept of e-learning.

Due to people's different educational needs in recent years, the need for e-learning is increasing

(Rosenberg, 2001). As we look at factors in the development, e-learning approach becomes very important today (Kışla, Sarsar, Arıkan, Meşhur, Şahin, & Kokoç, 2010). The independence of the e-learning environment from time and space is an important factor for students (Emir, 2006). E-learning is a great opportunity for those individuals who have little time to study because of work or other commitments as well as those who cannot undertake or continue face to face education because of physical barriers (Bates, 2005). In Turkey, e-learning undergraduate, postgraduate and certificate programs are very popular in Turkey.

In order to ensure the organization and follow up of e-learning courses, the learning management system software is used (Aydın & Biroğul, 2008). This software provides for student registration, course registration, course monitoring synchronous, asynchronous access to teaching resources, assessment and evaluation of activities (Duran, Önal, & Kurtuluş, 2006; Greenberg, 2002). One of the most important issues in e-learning is measurement and evaluation (Simonson, Smaldino, Albright, & Zvacek, 2006). According to the nature of e-learning, the measurement and evaluation process are undertaken through computers or Internet via online exam modules (Jamornmann, 2004). It is seen that the test results of students in the Internet environment is almost identical to the test results of the classroom environment and people prefer taking tests in the Internet environment (Website, http://www.enocta.com/web2/ContentShowOne.asp?CType=2&ContentID=73&T=5). However, problems derived from the user or the system can occur and online assessments in e-learning have many potential limitations (Scalise & Gifford, 2006).

As in the most of the institutions providing e-learning service, online exams are used in programs conducted by the Distance Education Research and Application Center, KTU (Karadeniz Technical University). During the research, problems were discussed in the online exams used in the distance master's degree for the inspection, planning and economy program in the Institute of Social Sciences within the Department of Educational Administration. This study was undertaken to determine the causes of the problems incurred during online exams and suggest ways of improving the measurement and evaluation process.

Aim of the Study

The aim of study was to determine the problems that students encountered in a graduate program run by KTU Distance Education Research and Application Center during the midterm exam period performed using online test module (before, during and after the exam).

Methodology

Research Design

The study used a qualitative approach, based on a case study research model (Yin, 1994). This method was chosen due to the fact that special case studies give the researchers the opportunity to identify very particular cases with the smallest details by focusing on examining specific subjects or situation (Wellington, 2000) and explain the cause-effect relationship among variables (Cohen, Manion, & Morrison, 2005; Çepni, 2007).

Participants

In this study, the technique of purposeful sampling (Coyne, 1997) was used to select the participants. Research sample comprised 106 students that were attending a master program administered by the KTU Distance Education Research and Application Center in the 2009-2010 academic years. Students enrolled in the master program had at least five years of teaching experience.

Analysis of Data and Procedure

The data collected within the scope of that research were obtained from e-mails sent by students before, during and after the online midterm exam.

The study and the method to be used were announced to the students through email (Yıldırım & Şimsek, 2008). First, the raw data were converted from e-mail format to text format. Then, the data were encoded by reading the texts in a way to reflect the students' stated vision. The opinions expressed were converted to allocate to themes explained in one or two words in the encodings. This process was carried out independently by two different researchers. Having compared the themes that the researchers revealed, the themes that best reflected the data were identified. For the identified themes, each student's opinion was interpreted. With the aim of supporting comments made and convincing readers, direct quotations from the students were given to elaborate on the themes.

Findings

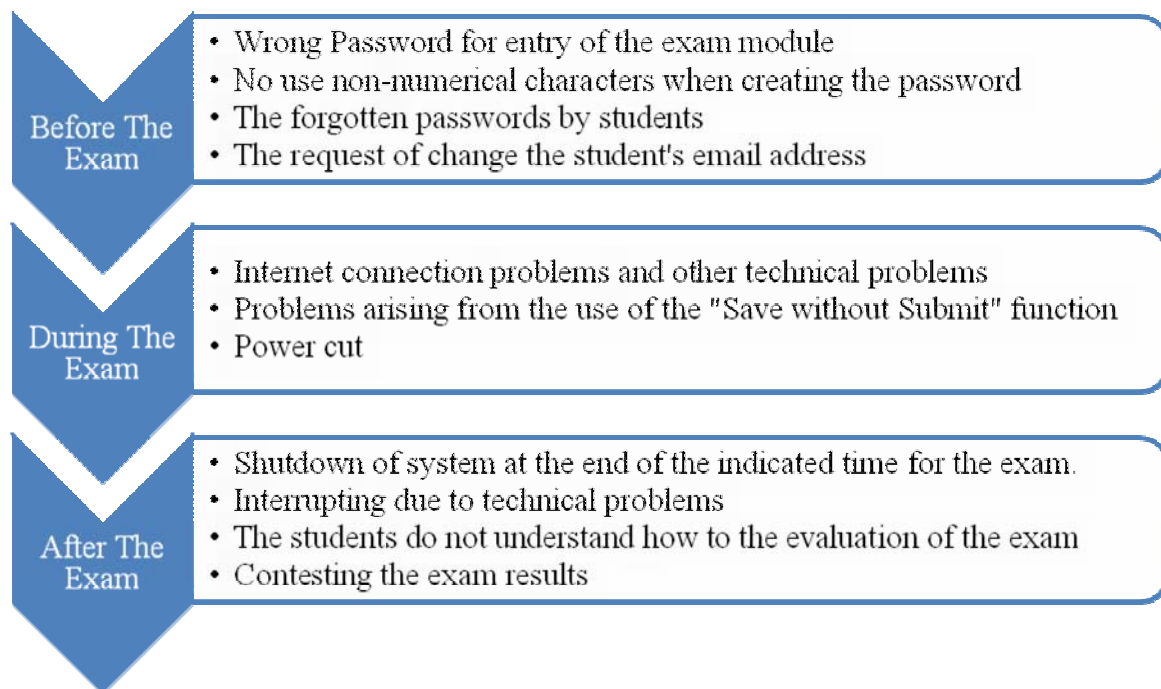The findings from the research are presented in three categories as shown in Figure 1.

Before The Exam
- Wrong Password for entry of the exam module
- No use non-numerical characters when creating the password
- The forgotten passwords by students
- The request of change the student's email address

During The Exam
- Internet connection problems and other technical problems
- Problems arising from the use of the "Save without Submit" function
- Power cut

After The Exam
- Shutdown of system at the end of the indicated time for the exam.
- Interrupting due to technical problems
- The students do not understand how to the evaluation of the exam
- Contesting the exam results

Figure 1. The problems encountered by distance education students in before, during and after the online exam.

Before the Exam

The online questionnaire prepared by the researchers using the system was applied at the beginning of the academic year. According to the results of the questionnaire, it was seen that students were able to use Websites, such as e-school, vitamin and social networking sites. Thus, their computer skills were assumed to be sufficient. Although, many e-mails about the password that was required for entry of the exam module were received from the students. Following are some of the comments in the e-mails from the students:

> "I am having trouble with changing the password. I create a password that contained eight characters and at least one character is being a letter character but I could not enter it. Please help."   [S.55]

"I am having trouble on entering the system. System does not confirm the last five digits of the TC number. Furthermore, I am faced with a foreign language."   [S.42]

"Is it caused by lack of any program in my computer? I cannot enter the system. It shows an error page or says wrong password. I tried again and again, but it will not open."   [S.15]

"I am trying to change the password but it is not changing… although I enter the user name and password, it gives an error message."   [S.45]

When students access the online exam module, the most common problem is that their passwords are not accepted by the system. This is often because they do not use non-numerical characters when creating the password. Thus, the system does not consider their passwords to be secure. The second major problem encountered results from the students' confusing the log in password to access the synchronous learning environment and the password used to log into the online test module. Some of the quotations from the emails regarding the password issues are given below:

"...I forgot my password. My computer stores the password so I can reach the online exam module. But I don't know the password. Could you send me my password?"   [S.14]

"I could not enter the site at the asynchronous system. I can access the lessons in the old system, but I made my password automatic so I forgot it. Waiting for your help."   [S.15]

"I have not been able to enter the system for four days. Can I change my password?"   [S.49]

"On the first day, when I was connecting to the synchronous lesson view system, I was hardly able to gain access. But later, I wasn't able to enter the system at all. There were problems with my user name. But I can't remember exactly. I kept my password. Can you help me to enter the system?"   [S.46]

"Hi, I cannot enter under normal conditions because I lost the password. I can only enter as guest. I forgot my user name and password. Can you help me? Thanks."   [S.13]

"Because I had forgotten my user name and password, I gave the information which Connect Pro wants to reset my password. But I couldn't do it. Can you send me a new password to access to the course so I can read the lecture notes?" [S.21]

Some students sent an email stating that they had not received any information mail about the online exam module. They wanted to change the email address that they had given when registering with the department. Some quotes about this situation from student e-mails are given below.

"Hi, I will be happy, if you can send me email to this e-mail address. Thanks."   [S.24]

"I could not get any mails which you sent. In my e-mail address, there are two underscores after the letter "m". I think that is why I cannot get e-mails."   [S.1]

During the Exam

Distance education students face problems in the process of the online examination. Many of the students who had problems during the exam system for distance education sent e-mails reporting their problems to the officials. These e-mails showed that the students encountered various problems.

"…I sent exam results twice by mistake... Please note the first one I submitted…"   [S.43]

"…approximately ten minutes before the end of the written examination, I wanted to save my writing by clicking the "Save without Submit" button; but the page was not be displayed. When I turned back to the page, all of my writing had

been deleted. The remaining ten minutes before the exam, I tried to rewrite what I had written, but I was unable to rewrite a significant portion of what I had written over 50 minutes and the answer to one of the questions. What am I supposed to do in this situation? I would be glad if you could help me." [S.62]

"…due to a power cut and then a modem failure my examination was interrupted." [S.36]

"…I think some of my answers are not accessible due to technical problems I had. What should I do?" [S.3]

"…when I pressed the "Save without Submit" button during the test, all the information I had written was lost. Then on the other test application page, my time remaining was 49 minutes, a few minutes later, it decreased to 16 minutes. After the exam was finished, the application opened again, yet this time the information you typed was submitted for exam is not repeated." [S.38]

Students had problems during the exam with Internet connection and other technical problems and especially those problems arising from the use of the "Save without submit" function. It is thought that the type of Internet browser and Internet connection that the students were using might create problems when using "Save without submit" function. Therefore, an Internet infrastructure that can provide seamless connectivity when using the online test module is seen as very necessary for students in terms of a trouble-free examination period.

After the Exam

After the examination process, students sent e-mails in regarding the problems they had experienced with the online exam or their results. Direct quotes from the student e-mails are presented as follows:

"…I got low score in the test. I was expecting a higher score. I want my exam to be reviewed. Could you please review my exam result?" [S.63]

"…though I pushed the 'Save without submit' button one minute prior to the end of the specified test time at 20:50, the system signed me out and finished my right to access. I would kindly ask for help to allow me to finish the remaining part of my exam." [S.35]

"…my 1st mid-term exam score was 75 on the results list, however, in the exam results section of the system that I entered with my own password, my exam score appears as 21. I would like to inform you since I think this is a mistake..." [S.2]

"…my exam was interrupted due to technical problems. I want to retake the remaining part of the test." [S.51]

"…In the test processed through the internet, how the answers folder are evaluated by the recipients? (Are they evaluated in the electronic environment?), is there any second controller? I would like answer to these questions." [S.63]

Reviewing the frequency of the e-mails requesting the retaking of a test that was interrupted due to technical problems is outstanding.

Moreover, there were several questions posed in regard to how the evaluation was conducted and objections raised about the test results. It appears that this situation occurred, because students did not recognize that test results are evaluated through the system in the online test module. Finally, some students complained about the shutdown of system at the end of the indicated time for the exam.

Conclusions

In the light of the findings from the research, the primary problem of these students experienced before the exam was their failure to generate a password acceptable to the system to enter the online test module. There

were two main reasons for the problems with passwords. First, the use of a character was not accepted as secure by the system. Second, the students failed to differentiate between the password belonging to the synchronous learning environment and the password for the online test module.

As we look at problems encountered during the exams, it is observed that the failures of the Internet connection negatively affect the examination process. However, the most frequent problem was that the students did not use the "Save without submit" function in accordance with the rules.

After the exam, students sent emails requesting that they are allowed to retaking the interrupted tests because of technical problems. In addition, students objected to the evaluation of the exam and their tests results. As understood from the emails which received from students after the online tests, it appears that students are unable to understand the automatic evaluation of test results through the system.

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