

WCLTA 2010

An investigation on evaluation of students' achievement in on-line teaching

Vahide Can^a *

^a *Anadolu University, Faculty of Education, 26470, Eskisehir, Turkey*

Abstract:

On-line teaching applications are very limited in Turkish higher education system. Most of the staff who wants to benefit from on-line teaching technologies in their courses, neither can use these technologies nor evaluate the students' achievement effectively. Text based instructional materials, asynchronous communication techniques and inappropriate evaluation methods have made poor the quality of the on-line teaching in on-line courses. Since an effective on-line teaching requires the advanced on-line teaching technologies including evaluation of students' achievement effectively it is an important requirement to investigate the competencies and views of teaching staff related to on-line teaching assessment.

Key words: Online education, methods of assessment

1. Online Education

Online education is a kind of distance learning which is applied on internet. The lecturer downloads the syllabus of the course to the related web pages, so the students can supply the syllabus (İşman, 1998). In online education practices, two approaches are followed. The first one is as a technological support to the courses which are done face to face with students (Jolliffe & at all, 2001, cited in Belikuşaklı, 2006). In the second approach the lesson is totally depended on the internet and realized through internet technologies and practices.

In our country, although the developments about this subject are followed generally on the university level, it is obvious that our universities are unable to use these techniques effectively. The lecturers who give online courses neither can use effective online teaching technologies nor have enough knowledge about them (Çallı & Bayam, 2002). For instance in an application of an online course, presenting a traditional teaching material asynchronous lessens the quality of the education.

Through the online education practices the lecturer serves as a guide besides preparing and teaching the material. The lecturer should be able to track all the system, and also direct the student by supplying rapid and effective support.

The success in online education depends on some factors such as; the active participation of the students, the interaction between the lecturer and the student, (Dursun, 2006; Çalışkan & Gürsul, 2010; Çalışkan, 2002; Aydın 2001), the cooperation among the students, (Belikuşaklı, 2006), the active learning methods (Atıcı, 2002), giving good feedbacks (Karataş, 2003), making a student focus on a certain subject (Balabanlı, 2004), keeping the standards high for the students and preparing the syllabus considering all type of students.

In online lessons the participation of the students depends on the students' interaction with other students, the lecturer, syllabus and the technology (Thurmond, 2003). The web which is formed through these interactions also helps the individual to learn and solve problems better (Çalışkan & Deryakulu, 2005). Reinforcement and feedbacks

should be given in time to make the desired behaviors much frequent. The reason is that feedbacks have three main aims such as, motivating, directing and reinforcement. According to the literature, students in online education environment either fail, feel like wasting his/her time or quit the lesson when the feedback is not given in time and in necessary amounts (Çardak, 2006). That is why, there is a need for multi environments which can strengthen the motivations of the students and make them actively involved in the lesson. Multi environments also have opportunities to assess the students (Hopper, 1998, cited in Kabakçı & at all 2010).

1.1. Assessment in Online Education

The guidance of the students in online education depends on some factors such as, the measurement of their success, defining their lack of knowledge, and good evaluation. The aim of evaluation is not only the assessment of the product that is learned but also the assessment of the process of learning. In online lessons the competency of the students is evaluated through online or face to face tests. But it might not be possible for students to gain the desired behaviors if online learning activities and processes are not integrated with suitable evaluation strategies (Sigala, 2005, cited in Belikuşaklı, 2006). For this reason the process of evaluation must be formed in consideration with proper strategies and with a student centered approach. We can also integrate the methods used in face to face education with online education.

In the process of online assessment, various techniques can be used for the pre evaluation, descriptive evaluation and formative evaluation. Paulsen (2003), points out four different types of evaluation used in online education. These are; the assessment of students themselves, the self assessment of students on computer, the evaluation of students by the lecturers and peer evaluation. Related to these assessment methods Moallem (2005) has developed a project based assessment model. According to this model the evaluation of the students is focused on the project. This project should be about real life problems and the evaluation of the project is spread through the whole process of teaching. The computer assessment is generally possible in online exams. The computer automatically evaluates the answers of the given questions. In online education process the assessment is made not only based on the exams but is made also through the other data which are collected during the process. For this reason, the evaluation of the following is necessary; the portfolios, student presentations and products, the student interviews, the group works, and self evaluations. In many instances online exams can raise the quality of the learning.

1.2. The Design And Application Of The Exams In Online Education

The traditional evaluations methods can easily be implemented to online education processes. Modules such as; true-false, filling the blanks, matching, short answered questions, open ended questions or software's such as articulate and question Mark can be used (Gülbahar, 2009). It can be considered that the projects can be done through the computers.

By this way, the students can benefit from the subjects of multimedia, it might get easier to collect the projects, cooperation can be successful through online communication, and information gathering gets much easier. Through the e-portfolios, the students can be actively involved in the process of assessment.

Video recording can be considered as a good alternative for performance based online education. Nevertheless Heinich and his friends (2002) have stated that video recording is quite an authentic assessment. Recording the class to a video during the lesson makes it possible for the lecturer to have a detailed assessment. Besides this, it might help the students to see their own faults better (Can,2008).

A similar record can be done in students' computers, there are such programs that are able to record all motions seen on the monitor. It is possible to understand from these records how much the student has learned about the subject, what kind of research techniques he/she uses or how much the student works. The questions about the course can be answered through the forums. It makes things much easier both for the lecturers and for the teachers. So it will be possible to make arguments outside the classroom as well. Anything the students have said will be taken into record, so it will be possible to understand which students talk more and which talk less than others. Because the students have to write down what they thought in forums they have to think more profoundly on the subject. Beside that with the support of projects, games, and simulations in chat rooms students communication among themselves can be realized, and also these can be recorded and used for the assessment as well. The components that are used for the evaluation (home works, forums, arguments etc.) helps the students realize what

they have understood or not (Barbosa & Garcia, 2005). The learning process might be long-lasting if the students communicate well with lecturers, and experts and have real life experiences (Woo & Reeves, 2007).

1.3. Aim

The aim of this research is to show the way for the evaluation techniques that lecturers use to reflect student competencies. Stemming from such a necessity, answers for the following questions are sought.

For lecturers;

1. What kind of evaluation techniques do they prefer in online courses?
2. What do they pay attention to during the process of evaluation?
3. What do they think about the feasibility of the evaluation technique they use in online courses?
4. What are their suggestions for the development of the evaluation techniques they use?

2. Method

This research is designed as a case study which is a qualitative method.

2.1. Participants

This research is applied to 20 lecturers who carry out online courses in Anadolu University in 2007-2008 education year spring semester. The interview is done face to face. Participants constitute of 3 professors, 16 associate professors and 1 lecturer.

2.2. Data collection and analysis

For the collection of the data semi-structured interview method is used. The analysis of the qualitative data is realized with descriptive analysis technique. For the descriptive analysis of the data a thematic frame is formed by taking into account the literature of the field. Based on the thematic frame the data are organized by the researcher. For the credibility of the thematic frame and the data 2 experts are consulted to. By comparing the markings of the researchers and experts and defining the dissensus and consensus, the credibility of the research is calculated as 88,7% (Miles & Huberman, 1994). Because the credibility of the research is over 80%, it is concluded that the research is credible. The data are defined after giving the thematic frame and the qualitative data their final form. The obtained data are supported from the raw data that is derived from the interviews and findings are formed.

3. Findings

The findings that are acquired from the interviews with lecturers are grouped to 4 as main themes, these are; the evaluation techniques that lecturers use for online courses, the factors that lecturers take into consideration while assessing the competency of their students in online courses, the problems the lecturers face during the process of evaluation in online courses and suggestions of the lecturers for developing the evaluation methods for online courses.

3.1. The Evaluation Techniques That Lecturers Use In Online Courses

As seen in Table 1 the most preferred evaluation methods are multiple choice and open ended exams which are conventional methods. While evaluations such as project, portfolio and performance are preferred significantly; evaluations such as peer evaluation, short answered exams and self evaluation are rarely used.

Table 1. The Evaluation Techniques That Lecturers Use In Online Courses

Theme	Sub Theme	Frequency (f)	Percent (%)
Traditional evaluation	Open ended exams	9	45
	Short answered exams	3	15
	Multiple choice exams	11	55
Alternative evaluation	Performance	7	35
	Project	6	30
	Portfolio	5	25
	Self evaluation	3	15
	Peer evaluation	2	10

3.2. The Factors That Lecturers Take Into Consideration While Assessing The Competency Of Their Students In Online Courses

Table 2. The Factors That Lecturers Take into Consideration While Assessing The Competency OF Their Students In Online Courses

Theme	Sub Theme	Frequency (f)	Percent (%)
Product Evaluation	The questions are at the level of analysis -synthesis	3	15
	Content validity	3	15
	Credibility	1	5
	Questions are at the same level with students	2	10
Process Evaluation	Participation of students to online system	10	50
	Electronic mail	3	15
	Forums	1	5
	Virtual classrooms	1	5
	Synchronous interaction	1	5
	Asynchronous interaction	3	15
	Measures for evaluation	1	5
	Rubric	5	25
	Observation form	4	20
	Check list	1	5
	Feedback	3	15
	Reaching the aimed behaviors	2	10
	Functional home works	2	10
	Home works are unique	2	10
	That students comply to ethical principals	1	5
	evaluation criteria is determined by the students	1	5
There are more questions on examples, practices and cause –effect relationship	1	5	

As seen in Table 2, in the product evaluation the teaching staff takes content validity in to consideration as well as preparing questions at the level of analysis and synthesis. They also take notice active participation in the evaluation process. They use the technologies such as e-mail, synchronous and asynchronous forums, and virtual classroom to be able to follow active participations of the students. They preferred the evaluation like rubric. Feedback, achieving the indented target and functional home works are seen the important requirements by the staff.

3.3. Problems The Teaching Staff Face During The Process of Evaluation in Online Courses

Table 3. Problems The Teaching Staff Face During The Process of Evaluation in Online Courses

Theme	Sub Theme	Frequency (f)	Percent (%)
Problems that are not technological	Giving feedback	4	20
	Following the students	8	40
	Lack of time	5	20
	Not using the proper evaluation tool	6	30
	Preparing the exams	2	10
	Complexity of alternative evaluation methods	4	20
Technologic problems	Lack of competence of lecturers using technology	5	20
	Difficulty in design		
	Difficulty in implementation	7	35
		3	15

As seen in Table 3, online courses teaching staff's assessment applications with a maximum follow-up examination of student design challenge faced two problems. Implementing appropriate measurement tools, lack of time, lack of technological skill is also very common problems facing faculty members, and practice exams to prepare as they are not a major problem.

3.4. Suggestions Of The Lecturers For Developing The Evaluation Methods For Online Courses.

Table 4. Suggestions Of The Lecturers For Developing The Evaluation Methods For Online Courses.

Theme	Frequency (f)	Percent (%)
Getting technical support	13	65
Giving in- service seminars	10	50
Generalizing online exam system	6	30
That each lecturer has less students	11	55
Giving importance to the opinions of students	1	5
Online examination system to provide related programs to promote	4	20

As seen in Table 4, getting technical support, having less students for evaluation, having in-service training, generalizing online system exams are seen as significant for developing evaluation methods. The lecturers consider giving importance to the opinions of students not significant.

4. Conclusion

The findings of the research have shown that, while lecturers use traditional evaluation methods to assess student competency in online teaching practices, they use alternative evaluation methods as well. It is understood that whereas there are lecturers who use analysis-synthesis questions for product evaluation, there are also lecturers who give importance to content validity. Despite that, the findings point out that lecturers face some problems technologic or some problems that are not. It is understood that lecturers believe they can solve these problems by getting technical support and participating in in-service training.

References

- Atıcı, B. (2002, 13–15 Mayıs). [Bilgisayar Destekli Asenkron İşbirlikli Öğrenme Çevrelerinde Öğrenci Denetimi] Learner Control In Computer Supported Asynchronous Cooperative Learning Environments. Manuscript presented at open and distance education symposium with international participation. [Online] URL http://aoft20.anadolu.edu.tr/bildiriler/Bunyamin_Atici.doc Accessed 01.08.2010.
- Aydın, C. H. (2001). [Çevrimiçi (online) eğitimi bekleyen tehlikeler]. Possible Threats for online education Sakarya University Journal of Education Faculty, 4, 101-108.
- Barbosa, H., Garcia F. (2005). *Importance of the online assessment in the e-learning process*. Manuscript presented at 6th International Conference on Information Technology-based Higher Education and Training, 6-9 July.
- Can, V. (2009). A mikroteaching application on a teaching practice course. *Cypriot Journal of Educational Sciences*, 4, 125-140.
- Çalışkan, H., Gürsul, F. (2010). [Gelecek nesil öğrenme ortamları: E-öğrenme]. Learning environments for the next generation: E-learning. *Journal of Istanbul Education and Culture*, 1, 46-48.
- Çalışkan, H. (2002). [Online (çevrimiçi) öğretimin tasarımı]. Designing of online instruction. *Journal of Sakarya University Education Faculty*, 4, 198-203.
- Çallı, İ., Bayam, Y., Karacadağ, M. C., (2002). [Türkiye’de Uzaktan Eğitimin Geleceği ve E-Üniversite]. Future of the distance education and e-university in Turkey. A manuscript presented at open and distance education symposium, 23-25 May.
- Çardak, Ç. S. (2006). [Çevrimiçi Derslerde Öğretme-Öğrenme Sürecinin Etkililiğinin Değerlendirmesi (Anadolu Üniversitesi Örneği)]. An evaluation of learning and teaching process of online courses. Unpublished master thesis. Anadolu university, Eskişehir.
- Çalışkan, E. & Deryakulu, D., (2005). [Bilgisayar destekli ortaklaşa öğrenmede grup yapısı, sosyal beceri ve etkileşim sıklığının görev başarısına etkisi, Ankara yapısı, sosyal beceri ve etkileşim sıklığının görev başarısına etkisi]. The effects of group structure, levels of social skills and interaction frequency on students’ individual and group task performance in computer supported collaborative learning. *Journal of Ankara University Educational Sciences Faculty*, 38, 49-68.
- Dursun, Ö.Ö. ve Odabaşı H.F. (2006). [Çevrimiçi Öğretici Roller]. Online tutorial roles. 6. international educational technologies conference, April 19-21, Doğu Akdeniz University, Gazimağusa, KKTC.
- Gülbahar, Y. (2009). [E-öğrenme]. E-Learning. Ankara: Pegem Akademi Yayıncılık.
- Heinich, R., Molenda, M., Russel, J.D., Smaldino, S.E. (2002). *Instructional Media and Technologies for learning*, 7th edition. Merrill Prentice Hall, ISBN 0-13-030536-7.
- İşman Aytekin, (1998). [Türk eğitim sisteminde ölçme ve değerlendirme]. *Measurement and evaluation in Turkish education system*. Adapazarı: Değişim Yayınları.
- Balaban, J.S., (2004). [Çevrimiçi Eğitimde Gütüleyici Öğrenme Sistemlerinin Tasarımı]. Motivational learning systems designing at online education. *Kurgu: Journal of Anadolu university communication sciences faculty*, 20, 267-280.
- Karataş, E. (2003). [Yüz yüze ve uzaktan eğitimde öğrenme deneyimlerinin eşitliği]. Equality of face to face and distance learning experiment. *Educational sciences and application*, 2(3), 91.
- Kabakçı, I., Fırat, M., İzmirli, S. & Kuzu E. B. (2010). [Öğretimin değerlendirilmesinde çoklu ortam kullanımına eleştirel bir bakış] (Electronic version). A critical examination of use of multimedia in instructional evaluation. *Gaziantep University Journal of Social Sciences*, 9(1):115-126.
- Miles, M.B. and Huberman, A.M. (1994). *Qualitative data analysis*. London: Sage Publication.
- Moallem M. (2005). *Designing and managing student assessment in an online learning environment, assessing online learning* (Ed: Patricia Comeaux). Boston: Anker Publishing Company, Inc.
- Özgülven, İ.E. (2004). [Görüşme ilke ve teknikleri]. *Principles and techniques of interview*. Ankara: Pegem Yayınları.
- Paulsen, M. (2003). *Online Education, Teaching And Learning*. <http://www.studymentor.com/PartOne.pdf> Accessed 11.09.2010.
- Thurmond, V., Wambach, R. N. (2005). *Towards an Understanding of Interactions in Distance Education*. http://ojni.org/8_2/interactions.htm Accessed 04. 05. 2010.
- Woo, Y., Reeves, T.C. (2007). Meaningful interaction in web-based learning: A social constructivist interpretation. *Internet and Higher Education*, 10, 15-25.