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Procedia - Social and Behavioral Sciences 83 (2013) 463 – 467

Procedia
Social and Behavioral Sciences

2nd World Conference on Educational Technology Researches – WCETR2012

Enhancing an online distance education course with video

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Abstract

The study analyzes students' perceptions of an online distance education course enhanced with video. It presents a case carried out with students who were enrolled to the course in 2011 summer. In this study, data were gathered from the students at the end of the course via perception questionnaire. The questionnaire includes items about the content and quality of the learning environment, the motivation of students and the problems the students face. The data show that students have positive attitudes towards enhancing online distance education with video. This study can contribute to the future research studies related with video based training and online distance education. Moreover, the results of the study can contribute to the design and development of online courses enhanced with video.

Selection and/or peer-review under responsibility of Prof. Dr. Hafize Keser Ankara University, Turkey

Keywords: Online distance education, video usage, video and distance education;

1. Introduction

Video has been used in educational settings for several years by means of videotapes. However, the use of digital video is not very common in schools and training institutions. Furthermore, the literature shows not much information about the implementation of online video. Therefore, this study was designed to identify the issues concerned with the deployment of online digital video technology in an online course.

The current study developed online video broadcasts for an online distance education course, and the perceptions of the students who were using this online environment, were investigated. This study is significant since the results can help to identify the perceptions and the needs of the students who are inexperienced with online distance education training environments and to design online distance education courses utilizing video.

1.1. Using video in education

With emerging technologies, such as digital video and editing, more powerful CPUs and increased network bandwidths with ADSL, we have now new instructional possibilities and multiple ways to present video. Video, with graphic and text-based support can capture the complexity of classroom interactions enabling students to view the real teaching and learning strategies utilized by the teacher. Video allows a group of students to share a common experience and review, perhaps over several sessions, important or critical teaching strategies missed in earlier

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Selection and/or peer-review under responsibility of Prof. Dr. Hafize Keser Ankara University, Turkey
doi:10.1016/j.sbspro.2013.06.091

viewings. As Barron and Goldman (1994) suggest, "from our own experience in using integrated media with pre-service teachers, and from similar research and development efforts at other institutions, we are encouraged about the use and potential of such materials in preparing teachers for the challenges of the classroom" (pp. 104–105).

According to Cannings & Talley (2002), the Internet and multimedia, including the non-linear integration of video, audio, text, and graphics can provide a rich environment for case studies which promote the construction of knowledge about integrating technology into the curriculum in a learning community of peers and faculty facilitators. With developments in web delivery, this environment can be accessed anytime and anywhere in a convenient and cost-effective way. The web also provides a new medium for delivering video to learners with the ability to transmit text, graphics, sound, short video clips, and hypertext. In addition, the web provides three significant capabilities for the delivery of case studies: (a) the ability to simulate real-world complexities, (b) the ability to use multiple media in case presentations, and (c) the ability to use hypertext navigation features.

Richardson and Kile (1999) provide a good general definition of video cases for learning: "Video cases are multimedia presentations of classroom actions and analyses that include moving pictures . . . of classroom action." In addition to the videos, video cases may include written or videotaped analyses; interpretations and/or explanations of the classroom action by the teachers, students, principals, parents, and/or others such as experts in the field; and other materials such as the teachers' instructional plans (p. 122).

Fisher (2000) reported that technologies had the greatest impact on the pre-service teachers prior to the program. As teacher educators, we know that tools, no matter how powerful their educational potential, don't directly help students to learn. What is important is how we use tools to assist teaching and learning.

Video cases can capture the complexity of the classroom context and provide a very efficient way to expose the viewer to the authenticity of the classroom. Students have the opportunity to replay videos to gather ideas, to learn teaching methods, to observe classroom interactions they might have missed otherwise and to see important features that may require more than one review (Perry & Talley, 2001).

2. Methodology

The purpose of this descriptive study was to identify the perceptions of students enrolled to an online distance education course about video enhanced online learning environment and to be able to understand the components needed for an on-line video based training environment. The research approach is a single case study, investigating the students' perceptions about an online video enhanced training environment for an online distance education course.

The main research question in this study is "What were the perceptions of the students who used the online video enhanced training environment?" Since education is identified as a social context, the online training environment was designed to a medium for learning to occur. Real-life situations were used when examples are needed, as suggested by Leflore (2000).

2.1. Participants

The subjects of this study were students of the Faculty of Education and the Faculty of Engineering at a state university who were enrolled to the *Foundations of Distance Education* course. The students were from different disciplines of the Faculty of Education and Faculty of Engineering.

2.2. Data collection

To be able to answer the research question, a Likert-type Online Video Enhanced Training Questionnaire was implemented. The questionnaire has items on students' demographic information and students' perceptions of video usage in a distance education course in terms of their comprehension of course content, their motivation, quality of video casts and technical aspects of video casts. The 5-point Likert scale consisted of 24 items (6 negative and 18 positive items) and negative items were coded inversely. At the end of semester, the questionnaire was announced

on the course website and the students were asked to submit their comments within a week. The students were also informed that their participation in the questionnaire was voluntary. The goal of the questionnaire was to understand the students' perceptions toward online video enhanced distance education.

3. Results

3.1. Descriptive results

There were 86 participants in the study, 30 of them were female and 56 were male.

Table 1. Descriptive statistics - Gender

Gender	n	%
Female	30	34,9
Male	56	65,1
Total	86	100,0

The majority of the participants were 3rd year students from various departments of Faculty of Education and Faculty of Engineering. There were twenty nine 4th year students, nineteen 2nd year students and only two 1st year students.

Table 2. Descriptive statistics - Grade

Grade	n	%
First year	2	2,3
Second year	19	22,1
Third year	36	41,9
Fourth year	29	33,7
Total	86	100,0

55.8% of the participants indicated that they did not take any online course before. There were 19 participants who reported only one online course beforehand and 12 of the participants had taken two online courses. 4 of the participants were enrolled to three online courses whereas 3 participants had registered to four or more online courses in their academic life.

Table 3. Descriptive statistics – Number of online courses taken before

Number of online courses taken	n	%
0	48	55,8
1	19	22,1
2	12	14,0
3	4	4,7
4 or more	3	3,5
Total	86	100,0

3.2. Results of Questionnaire

This questionnaire has items on students' demographic information and students' perceptions of video usage in a distance education course in terms of students' comprehension of course content, motivation of students, quality of video casts and technical aspects of video casts. The overall reliability of the questionnaire was found to be *0.79*, which is a permitted value for educational research. The internal consistency coefficient (Cronbach α) of the first factor consisting of 7 items and labeled as "Quality of content" was 0.84. The internal consistency coefficient of the second factor which consisted of 7 items and labeled as "Participant motivation" was 0.74. The third factor consisting of 6 items and labeled as "Comprehension of content" had an internal consistency of 0.72. The last factor consisted of 4 items and titled as "Technical aspects" had an internal consistency coefficient of 0.71.

3.2.1. Perceptions about Quality of Content:

There were 7 items in Online Video Enhanced Training Questionnaire to understand the students' perceptions about the quality of the content. The overall mean is 3.56 which mean slight agreement with the statements about the quality of content in the video enhanced distance education.

With a mean score of 3.53, the participants agreed that the information was presented effectively in the video segments. 43 of the students agreed with this item and 9 participants strongly agreed about the item. The majority of the students (69 participants) agreed and strongly agreed that it was easy to access the online videos. 14 of the students strongly agreed and 35 of them agreed with the videos being entertaining. 52 of the students reported that they would use online video to be able to teach more effectively. With a mean score of 2.36, the participants showed disagreement of the inefficiency of the online video. The majority of the students (68 participants) agreed and strongly agreed that they liked having control over the instructional flow. 24 of the students strongly agreed and agreed with the online video enhanced training being challenging.

3.2.2. Perceptions about Participant Motivation:

There were 7 items in Online Video Enhanced Training Questionnaire to understand motivation of students. The overall mean is 3.52 which mean slight agreement with the statements about the motivation.

54 of 86 students indicated that the video enhanced training helped them to stay focused during the instruction. The mean score of 3.63 indicates an agreement to the item that using online video would better prepare the students for profession. For the item asking students' preference to ask the instructor questions after watching the online video, 42 of the students indicated agreement. 58 of the students agreed that they were more engaged in the course with the online video. One of the highest mean scores of the questionnaire is 3.79 and the item is recommending courses utilizing online video enhanced training to others. 63 of the participants (18 strongly agreed and 45 agreed) agreed with this item. 32 of the students reported that the online video took more time than worth. The mean score of 3.69 indicates an agreement to the item that the online video added reality to the course.

3.2.3. Perceptions about Comprehension of Content:

There were 6 items in Online Video Enhanced Training Questionnaire to understand the perceptions of students about the comprehension of the content. The overall mean is 3.49 which mean slight agreement with the statements about the comprehension of content in the video enhanced training.

43 of 86 students indicated that they learned more using the video enhanced training method with respect to traditional method. 46 of the students agreed with the item stating that the online video enhanced education allowed deeper understanding of the course content. The majority of the students (48 participants) agreed and strongly agreed that the online video allowed more retention from the course. 42 participants agreed that they learned a lot from the video segments. 48 of the students (39 agreed and 9 strongly agreed) indicated that they learned more effectively by using online video. With a mean of 3.65, the majority of the students (55 participants) agreed and strongly agreed that the online video helped them understand better.

3.2.4. Perceptions about Technical Aspects:

There were 4 items in Online Video Enhanced Training Questionnaire to understand the perceptions of students in terms of technical aspects. The overall mean is 3.45 which mean slight agreement with the statements about the technical aspects of video enhanced training.

51 of the participants were pleased with the video quality of the video segments. (13 participants strongly agreed and 38 participants agreed) For the audio quality of the video, 52 of the participants were contended. 37 of the students reported that they encountered technical problems when watching the online video. The second highest mean score of the questionnaire (3.86) indicates an agreement to the item that it was convenient to fast forward/rewind the video to a specific part of video.

4. Conclusion

Looking at the results of the questionnaire, we can say that using online video in an online distance education course fulfilled the needs of the students. In terms of video and audio quality, the students found the used standards acceptable. Helping to understand related content better was the most common answer for this research question. Participants in the study thought that video could provide some benefits; additionally 54% of them emphasized that the content of video segments is very important. Participants also indicated that effective video segments depend on some factors, such as technology used for production and delivery of video. Since multimedia material (video, audio, etc.) are presented in an online video enhanced training environment, the learner might find this more enjoyable than working in a classroom setting or working with books.

Another conclusion of the study is that; participants generally reported that online video enhanced training can be used with different instructional aims. 64.59% of the participants reported that the main reason to use online video is providing motivation to students. They also indicated that their preference of watching online video in a course is dependent on the content of video, the technology the video is offered, the attitudes toward the course, and personal preference.

This study is an example of online video enhanced training in a distance education course. Practitioners, who are instructional designers or teacher educators who want to use online video in training environments could utilize the findings of the current study. The results of this study supported the view that taking an online video enhanced course affects students' attitudes positively toward video enhanced training (Mitra and Steffensmeier, 2000). From the learners' side, using online video can be helpful, for instance, since the students are familiar with working with computers, learning may be more effective. Design of online video enhanced learning environments requires a constant collaborative effort. There should be a team with the following members: a researcher or a designer, a subject matter expert, technical experts of both Internet technologies and video technologies, and at the top of them, there should be an administrator who maintains the relationship between the groups of people.

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