Impact of video recorded lectures among students

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This study evaluates the impact of video recorded lectures on students who have accessed them as part of their studies at the Nanyang Technological University. A survey was designed and administered to this group of students. In addition, data on the usage of video recorded lectures between July 2005 and June 2006 was extracted from the server. The findings indicated that the usage among students has been far beyond expectations. It also suggested that the video recorded lectures have benefited the students as it has enhanced their learning experience in the University.

Keywords: teaching and learning strategies, ICT policies and strategies

Background

Nanyang Technological University (NTU) started introducing e-learning to both faculty and students in year 2000 via a learning management system, Blackboard. The Centre for Educational Development (CED) takes on the main the responsibility for providing support to academic staff and students to ensure effective teaching and learning practices within the University. In relation to this, CED has embarked on a project which involves the video recording and digital archiving of lectures. The objective of the project is to enable faculty to have the flexibility to place recorded lecture links in Blackboard for their students to view. Figure 1 shows the screenshot of a streaming video recorded lecture. As part of this project, CED has sought assistance and active involvement of student-led school clubs in capturing the lectures on video and the post-production processing. Each school in the University has a student-led school club which looks into the academic and welfare matters of the students.

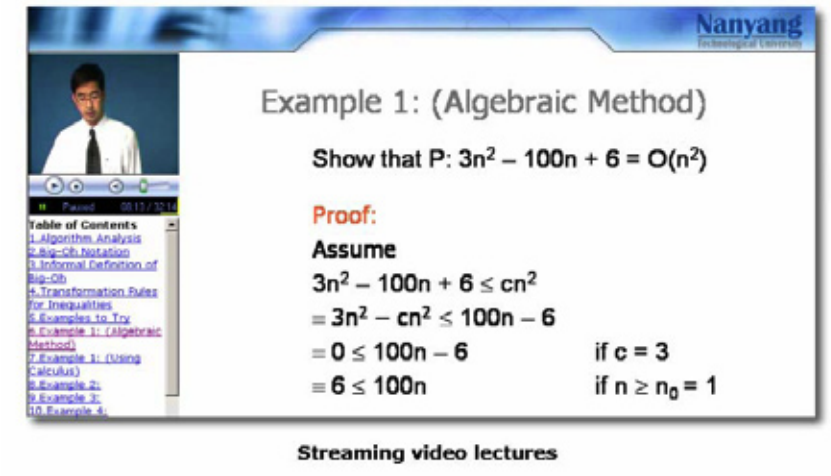


Figure 1: Screenshot of a streaming video lecture

The video recording of lectures project was done in collaboration with school clubs. The school club sub-committee recruited members to record the lectures and were previously awarded extra-curricular points under the Points Award System (or PAS). These points go towards the allocation of student housing. CED provides the infrastructure support and training to the school club members in this project.

Since the project started in July 2003, seven student-led school clubs took the initiative to embark on this project and formed club sub-committees to manage the recording of lectures for their respective schools. Lectures were recorded based on mutual consent by the school club and the instructors.

The study aims to find out the extent the video recorded lectures have been used by the student population.

Use of video in education

Research has shown that the levels of attention of students in a traditional lecture will tend to decline rapidly after 20 minutes. (Middendorf & Kalish, 1996). Hence, students who attend lectures may have difficulty in focusing on a 1-hour or 2-hour lectures in the University. Foreign students, especially freshmen, who may not be conversant in English, often find it even more difficult to focus during lectures as they have to comprehend the content and language at the same time.

The video provides a face with expressions, gestures and a human voice to what is usually 'faceless' online content, which according to the social-cue hypothesis stimulates students interest and communication, and therefore influences learning in a positive manner (Dewey, 1913; Rutter, 1984).

It is also important that such video presentations should have much learner control as these video presentations are targeted at adult learners, mainly at undergraduates, who tend to prefer self-directed learning approaches (Knowles, 1980). Asynchronous access has been found to be equally valued for both empowering the learner with control of the lecture and convenience (Simpson, 2006). The system adopted by NTU for video recorded lectures allows learners to access any segment of the lectures easily through a table of content. Learners can easily click onto any particular topic under this table of content to view the segment. Learners are also able to re-play, start or pause the video streaming.

Methodology

All students who have attended lecturer sessions that were recorded were invited to participate in the survey. The survey was carried out by school clubs, with assistance from CED to students attending lecture sessions that were recorded. A questionnaire was designed. The questionnaire contains two sections: (1) the profile of students, and (2) feedback from students on the use of video recorded lectures. There is a total of 23 items found in the questionnaire. In addition, data on the usage of video recorded lectures between July 2005 and June 2006 was extracted from the server.

Findings

A total of 1160 students completed and returned the questionnaire. The return rate is 38.9%. The majority of the students surveyed are from year 1 and 2 (N=954, 82.2%) while the remaining 206 (17.8%) are from year 3 to year 5.

Point of access

Almost an equal percentage of students accessed the internet for video recorded lectures most frequently from home (*N*=1160, 37.5%) and hostel (39.1%). The remaining percentage indicates that the students access these video recorded lectures mainly from various other locations within the campus.

Usefulness of recorded lectures

94.9% (*N*=1140) of the students agreed (either strongly agree or agree) that the video recorded lectures are useful in relation to their studies in NTU. This is based on a 4-point scale question on the usefulness of the video recorded lectures.

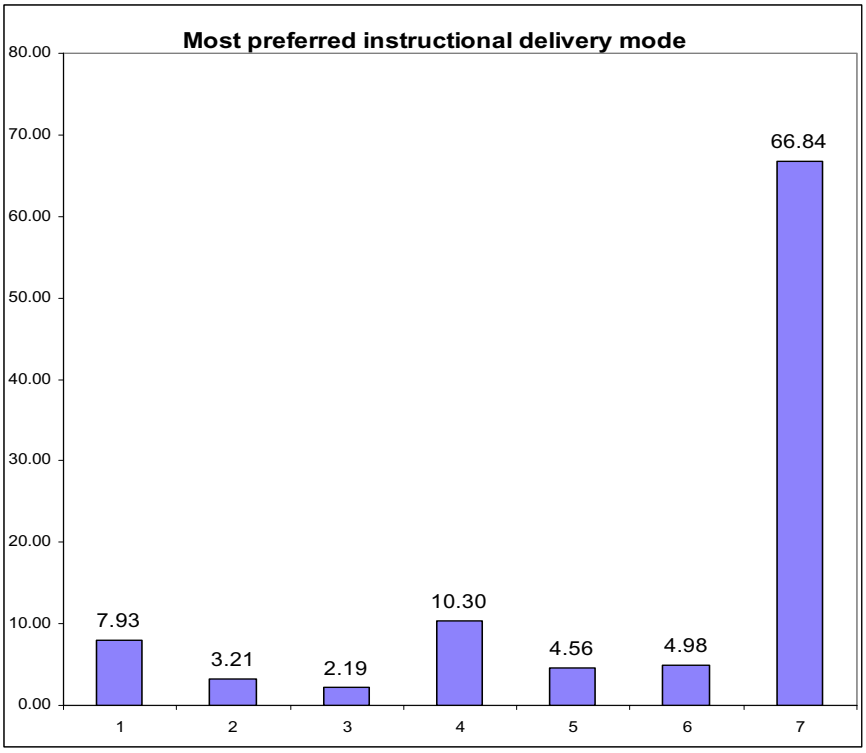
Quality of recorded lectures

Another 83.0% (*N*=1142) were satisfied (either strongly agree or agree) with the quality of the video recorded lectures. 95.8% (*N*=1067) of the students surveyed agreed (either strongly agree or agree) that these video recorded lectures should be continued in the following semesters.

Viewing patterns

It is noted that 48.3% (*N*=1134) of the students view selected portion of the recording repeatedly until they understand it while another 29.2% view the whole recording. 13.8% of the students surveyed view selected portion of the recording once for revision while 8.7% did not find the question applicable to them.

Majority of the students surveyed (*N*=1165, 66.8%) indicated that their most preferred instructional delivery mode is a combination of lectures in lecture theatre, with video recorded lectures and uploaded course documents on Blackboard (Figure 2). This finding suggests that students prefer 'whole package' of instructional modes be made available for them.



1 = lectures in lecture theatre (LT)
2 = video recorded lectures
3 = uploaded course documents in Blackboard
4 = lectures in LT, with uploaded course documents on Blackboard
5 = lectures in LT, with video recorded lectures
6 = Video recorded lectures, with uploaded course documents on Blackboard
7 = lectures in LT, with video recorded lectures, and uploaded course documents on Blackboard

Figure 2: Students most preferred instructional delivery mode

Based on Table 1, it is noted that one of the main reasons why students access video recorded lectures is to watch selected parts of the lectures in lecture theatre which they do not understand (*N*=904, 34.5%).

21.5% of the students indicated that they access video recorded lectures as it helps them in preparing for examinations. Another 18.1% shared that they access video recorded lectures as it can be accessed anywhere, anytime.

Table 1: Main reasons why students access video recorded lectures

Reasons	%
I find the video recorded lectures help me in preparing for exams	21.46
I can view the recorded lectures anywhere, anytime	18.14
I do not have to get up early for lectures	7.52
I am too busy to attend classes	4.54
I find the lectures in LT not interesting	1.33
I can watch selected parts of the lectures in LT which I don't understand	34.51
I access video recorded lectures when I am on MC	10.73
Other reasons	1.77

From July 2005 till December 2005, the number of accesses by student was 114,204. The aggregated viewing duration (that is, summating the viewing duration of all students) amounted to more than 48,000 hours (Table 2). This translates to more than 5 years of continuous viewing for that semester. For the period between January 2006 and June 2006, the number of accesses by students exceeded 170,000. In addition, the aggregated viewing duration amounted to more than 68,000 hours (Table 2). This translates to more than 8 years of continuous viewing for that semester. This is interesting as we have a significant proportion of students on industrial/professional attachment during this period.

Table 2: Number of hits and duration viewed

	No. of presentations/ lectures recorded		No. of hits		Duration viewed (hours)	
Semester	July till December 2005	January till June 2006	July till December 2005	January till June 2006	July till December 2005	January till June 2006
Total	950	1,773	114,204	171,998	48,231	68,719

Discussions

The findings of this study suggest that the students have benefited from accessing video recorded lectures. Feedback from students indicated that such recordings enable them to access parts of lectures which they do not understand. Some students also indicated that these recordings help them in preparing for examinations. Students also find the video recorded lectures provide them with the flexibility in accessing it anywhere, anytime.

One observation from the study is that students would prefer to have a combination of face-to-face lectures, video recorded lectures, and uploaded course documents on Blackboard. This shows that students still value face-to-face lectures despite the introduction of technology into the various courses in the University.

One area of research which can be carried out in future is to find out why students who enroll in certain subjects tend to access video recorded lectures more often that other group of students. The findings of such research would help educational technologists make more informed decisions when assisting faculty members in the planning and development of online course materials.

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