

Using instructor-generated short videos in an undergraduate accounting information system course

Javed Yusuf

The University of the South Pacific
javed.yusuf@usp.ac.fj

Deepak Prasad

The University of the South Pacific
deepak.prasad@usp.ac.fj

Abstract

The University of the South Pacific (USP) is a regional university, established in 1968, serves twelve independent island nations of the South, Central and North Pacific. In Semester 1 of 2017, an undergraduate introductory accounting information systems course at the University was offered on face-to-face delivery mode. This course was supplemented by an online presence via the University's learning management system and utilised several tools for its delivery of learning and teaching. One such tool was the use of instructor-generated short videos. At the end of the Semester, data was collected on the student viewership of the videos and a survey was carried out to evaluate the effectiveness and usefulness of the instructor-generated short videos in the course, and to gauge student satisfaction on the overall quality and general appeal of these videos.

This paper reports on the findings from the student viewership data and the survey. It also briefly reviews literature on the use of videos in education; in particular, short instructor-generated videos for delivery of learning and teaching experiences in the Accounting discipline, followed by the methodology adopted for the survey. The paper concludes by noting limitations of the study and recommending areas for further investigation and improvement.

Keywords: instructor-generated short videos, effectiveness of videos, general appeal of videos, viewership, accounting information system

Introduction

The University of the South Pacific (USP) is a regional university, established in 1968, initially in face to face mode, is now a multi-mode institution (print-based distance education started in 1971 and online in 2000). It serves twelve independent island nations of the South, Central and North Pacific of the Pacific (Cook Is., Fiji, Kiribati, Marshall Is., Nauru, Niue, Solomon Is., Tokelau, Tonga, Tuvalu, Vanuatu and Samoa) with 14 regional campuses around the Pacific. The main campus is located in Suva, Fiji. USP offers more than 400 courses per semester through four delivery modes; face-to-face, print, online and blended. USP is moving towards providing more of its programmes and courses using online and blended modes. The University has during the past four decades moved ahead with various blend of educational technologies and delivery strategies. One such strategy is the use of educational videos to either supplement or enhance educational delivery.

The course used for this study (herein referred to as "the course") is an undergraduate introductory accounting information systems course offered by the University's School of Accounting and Finance. The course exposes and explores in-depth using of 'Mind Your Own Business' (MYOB) accounting software currently adopted in many business environments for recording, analysing and

interpreting accounting data in the modern business environments, specially designed for financial accounting data to be analysed and reported to the users such as the management and the stakeholders. In Semester 1 2017, the course was offered in face-to-face delivery mode supplemented with an online course shell on Moodle, USP's Learning Management System. The course had 11 units/topics of study throughout the semester. There were 286 students enrolled in the course for Semester 1, 2017 out of which 118 (41%) were male and 168 (59%) were female. Working with the Learning Designer and Media Producers, the course instructor had developed several short pre-recorded videos for each unit/topic and these were made available to the course students via the online course shell on Moodle. These videos were either explaining and re-enforcing key concepts or summarising key points in a particular unit/topic.

At the end of the Semester, data was collected on the student viewership of the videos and a survey was carried out to evaluate the effectiveness and usefulness of the instructor-generated short videos in the course, and to gauge student satisfaction on the overall quality and general appeal of these videos. This paper reports on the findings from the student viewership data and the survey results. It also briefly reviews literature on the use of videos in education; in particular, short instructor-generated videos for delivery of learning and teaching experiences in the Accounting discipline, followed by the methodology adopted for the survey. The paper concludes by noting limitations of the study and recommending areas for further investigation and improvement.

Literature review

In the delivery of learning and teaching experiences, multimedia can be used to supplement course content and activities in innovative or interactive ways (McFarland, 1996), and research in educational psychology suggests that "learning is affected positively by presenting text and illustrations together" (Mayer & Sims, 1994, pp. 389-401). Research has also demonstrated that the use of multimedia, either alone or in conjunction with other instructional aids, is effective for promoting knowledge (Gormley & Ruhl, 2007; Thomas & Rieth, 2011). Video is one such medium, albeit, not new in its use for learning and teaching.

Several recent studies (such as Hsin & Cigas, 2013; Kay, 2012; Moore & Smith, 2012) have shown that videos can be a highly effective tool for the delivery of learning and teaching experiences. The advances and easement in video recording technology and growing enthusiasm for the "flipped classroom" model have seen increased momentum on the use of pre-recorded lecture videos as learning and teaching strategy across the education sector (Pardo et al., 2015). Learning for cognitive, affective and psychomotor skills acquisition can be also be successfully aided by the use of instructional videos (Cooper & Higgins, 2015).

Instructor-generated videos, a form of educational video, are pre-recorded course video segments developed by the instructor, either on its own self or in conjunction with a video production crew. Draus, Curran and Trempus (2014) concluded that the literature on the use of instructor-generated video represented generally consistent themes, noting students reported greater student satisfaction and perceived value in the instructor generated video content. Furthermore, their (Draus, Curran & Trempus, 2014) study findings indicated that instructor-generated videos had positive and moderate influence on learner satisfaction. Miller and Redman (2010) in their study concluded that instructional video content improved learner attitudes towards the content, increased their student mastery of learning material and improved student satisfaction. The use of instructor-generated video content also improves social and teaching presence of the instructor in an online environment (Borup, West, & Graham, 2012; Hegeman, 2015). Griffiths and Graham (2009) in their study concluded the use of asynchronous videos had the capacity to develop positive levels of immediacy and social presence that can be motivational to students and offered the time and location flexibility benefits.

Short instructor generated videos popularized by Khan Academy and MOOCs are optimally between five to ten minutes in duration, and succinct in nature (Yusuf, Prasad, & Bhartu, 2017). Guo, Kim and

Rubin (2014) noted that this style of videos allows instructors to situate themselves on the same level as the learner offering more learner engagement. Davis (2012) also highlighted that the short duration of this style of video enables reinforcement of key learning concepts and promoting mastery of learning.

The use of videos in teaching accounting has been comprehensively explored in studies such as by Hornik and Thornburg (2010), Rich (2012) and Fessler (2012). Watters and Paul (2009) in their findings highlighted that majority of students in the undergraduate accounting course indicated that pre-recorded video lectures were more effective than a live classroom lecture. Philips and Trainor (2014) found a similar thing, particularly with millennials, noting that millennial accounting students in their study valued video lectures as a source for content delivery. Lu and Song (2013) pointed out that because of encountering lot of operational difficulties to teach accounting information systems, the use of the video clips in an accounting information systems class was necessary. Furthermore, Lu and Song (2013) noted that in their case, the use of the video clips had expanded the range of ways that accounting teachers disseminate knowledge to accounting students, hence enabled accounting students to learn accounting information systems through a multi-layered approach, which included a combination of traditional face-to-face lectures and video clips.

Methodology

This study was conducted during Semester 1 of 2017. For this study, two instruments were used. Data was collected on the student viewership of the videos and a student survey. Data from student viewership i.e. the total number of times (frequency) a video was viewed or downloaded by the course students throughout the Semester. This data was collected after the completion of the Semester using the 'logs' tool of Moodle

The other method utilized was a student survey. The survey was created and conducted online using Google Forms (<https://www.google.com/forms>) and a link to the survey was placed on the course's Moodle site in the last teaching week of Semester 1, 2017. Students were given 4 weeks to complete the survey. The survey was optional for students to take and their responses were voluntary and completely anonymous. Survey data were collected over that period.

The survey questions were developed by the authors after reviewing several literature on instructional videos and instructor-generated videos. Some of the questions were adopted from the survey instrument developed and used by Draus, Curran and Trempus (2014). The questions were specifically developed/adopted to evaluate the effectiveness and usefulness of the instructor-generated short videos in the course, and to gauge student satisfaction on the overall quality and general appeal of these videos.

The survey consisted of nine Likert scale statements in order to measure student agreement to these statements. The five-point Likert scale consisted of the following components: strongly agree, agree, not sure, disagree and strongly disagree. The authors had categorised these statements into two categories, although the students were not made aware of this. The two categories were: (a) effectiveness and usefulness of the instructor-generated short videos (statements 1 to 6, mentioned below) and (b) student satisfaction of the overall quality and general appeal of the instructor-generated short videos (statements 7 to 9, mentioned below). The nine survey statements were:

Category A: Effectiveness and usefulness of the instructor-generated short videos

- 1) The videos helped me better understand this course.
- 2) The videos helped me develop a stronger understanding of the instructor.
- 3) The videos contributed to my satisfaction with the overall course.
- 4) The videos helped to improve my marks in this course.

- 5) I have gone back to re-watch the videos when I needed further understanding on a topic.
- 6) I was able to learn more from the videos since I was able view at my own pace.

Category B: Student satisfaction of the overall quality and general appeal of the instructor-generated short videos

- 7) I was satisfied with the audio and video quality of the videos used in the course.
- 8) The duration of the videos used in the course were just enough to keep me engaged.
- 9) I would like to see more courses at USP use similar style videos in their courses.

Results - Student Viewership

By the end of Semester, the total number of views for Unit videos ranged between 353 to 47 views and the total number of students that had viewed these videos at least ones ranged from 163 (57%) to 40 (14%). The highest views per Unit video was for Unit 1, the first video for the course. The total number of views for Unit Summary videos ranged between 272 to 19 views and the total number of students that had viewed these videos at least once ranged from 148 (52%) to 23 (8%). The highest views per Unit Summary video was for Unit 1, the first summary video for the course.

These results are summarised in Table 1, and Figures 1 and 2.

Table 1: Breakdown of student viewership per Unit videos and Unit Summary Videos, and the Variance/Difference between each in the course for Semester 1, 2017

Unit	Unit Video		Unit Summary Video		Variance between Unit Video & Unit Summary Video Viewership	
	Total number of views (a)	Total number of students that had viewed the video at least once (b)	Total number of views (c)	Total number of students that had viewed the video at least once (d)	Difference – Total number of views (a) – (c)	Difference – Total number of viewers (b) – (d)
1	353	163 (57%)	272	148 (52%)	81	15 (5%)
2	275	133 (47%)	211	118 (41%)	64	15 (5%)
3	157	96 (34%)	107	71 (25%)	50	25 (9%)
4	90	66 (23%)	63	45 (16%)	27	21 (7%)
5	47	35 (12%)	19	28 (10%)	28	7 (2%)
6	82	45 (16%)	47	40 (14%)	35	5 (2%)
7	111	63 (22%)	81	61 (21%)	30	2 (1%)
8	81	57 (20%)	40	34 (12%)	41	23 (8%)
9	53	42 (15%)	24	23 (8%)	29	19 (7%)
10	84	55 (19%)	35	28 (10%)	49	27 (9%)
11 A	94	59 (21%)	29	29 (10%)	65	30 (10%)
11 B	54	40 (14%)	-	-	-	-

Figure 1: Total number of views per Unit videos and Unit Summary Videos in the course for Semester 1, 2017

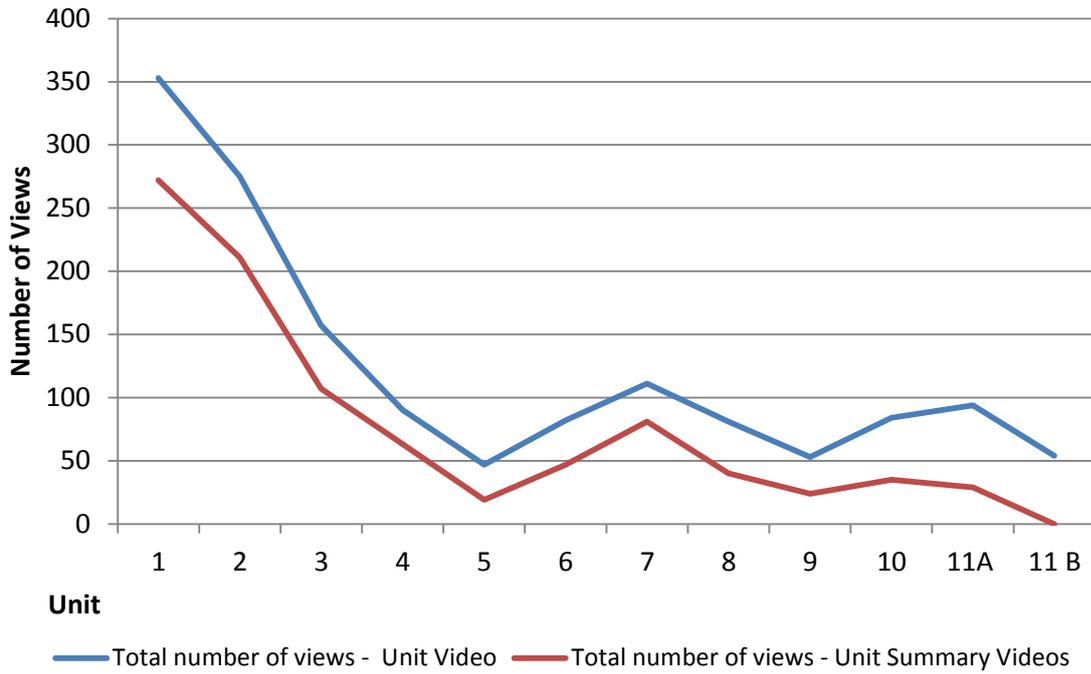
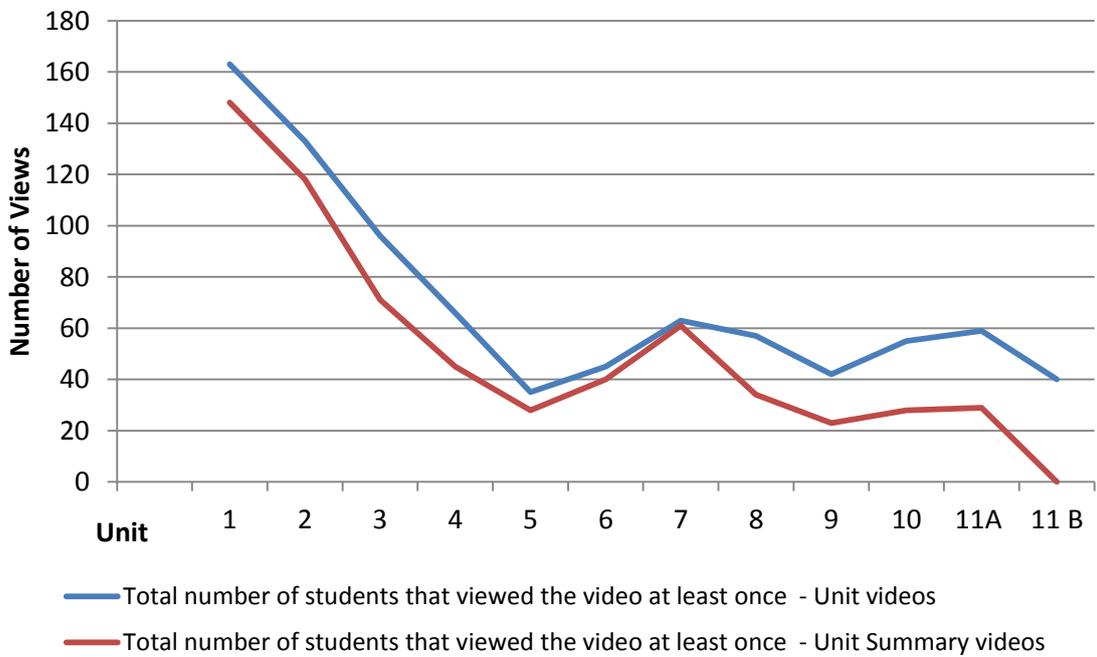


Figure 2: Total number of student that viewed the Unit videos and Unit Summary Videos at least once in the course for Semester 1, 2017



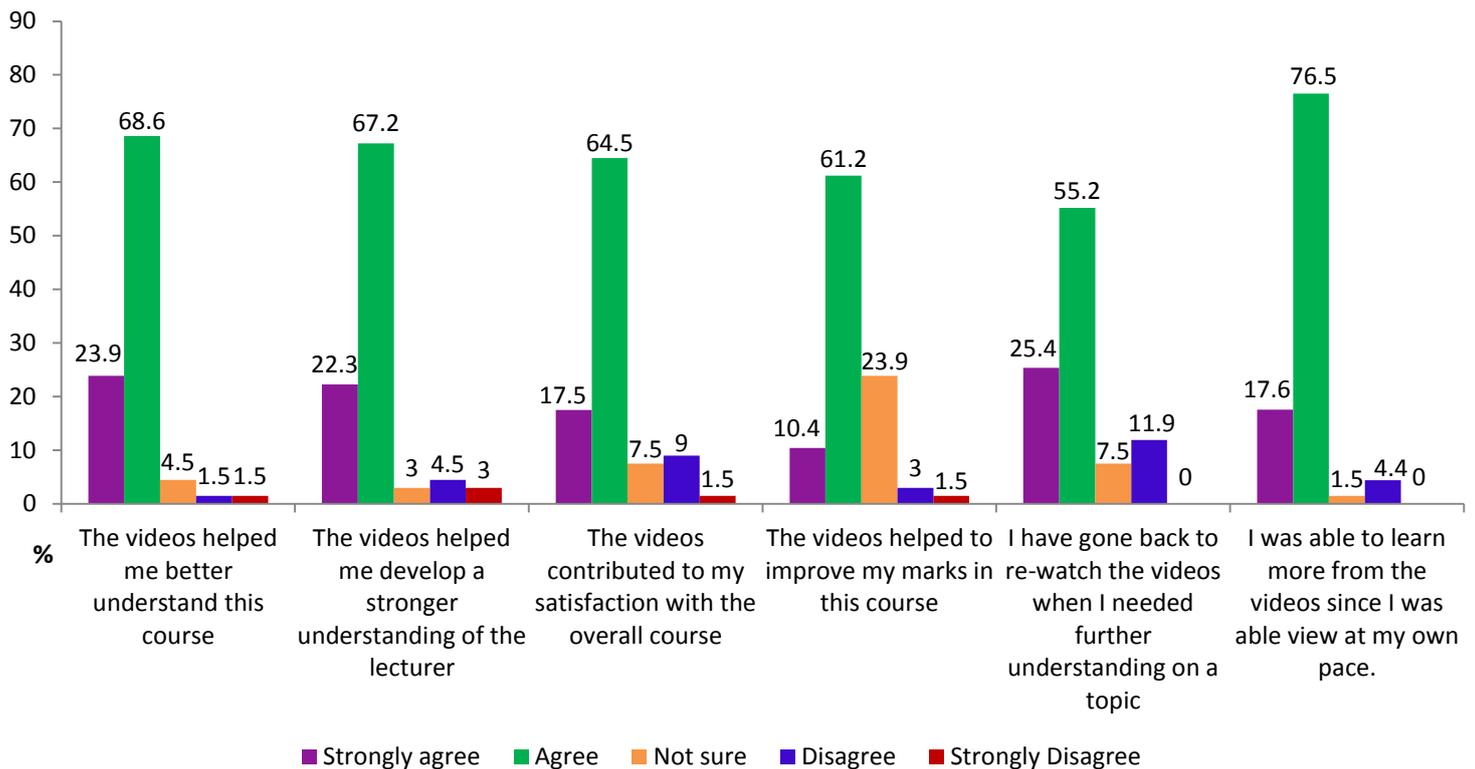
Survey Results

From the 286 enrolled students for the course in Semester 1 of 2017, only 70 students completed the survey successfully, yielding a response rate of approximately 25%. Of the surveyed students, approximately 45% were male and 55% were female.

Generally, the majority of surveyed students (85%) indicated that the instructor-generated short videos used in the course were effective and useful in better understanding the course and the instructor, and contributed to their overall satisfaction with the course. However, the results also showed that on average 7% of surveyed students thought otherwise. About 80% of the surveyed students agreed/strongly agreed that they watched and re-watched the instructor-generated short videos to further their understanding of the course topics. An overwhelming majority of surveyed students (94%) agreed/strongly agreed that they were able to learn more as the instructor-generated short videos enabled them to learn at their own pace. About 70% of the surveyed students agreed/strongly agreed instructor-generated short videos helped in improving their marks in this course; however, few of them (24%) were not sure about this.

These results are summarised in Figures 3 and 4.

Figure 3: Student responses (%) to all the survey statements on the effectiveness and usefulness of the instructor-generated short videos used in the course for Semester 1, 2017



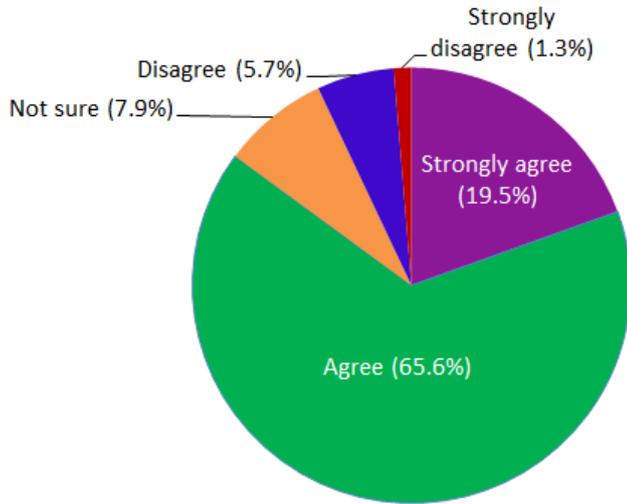
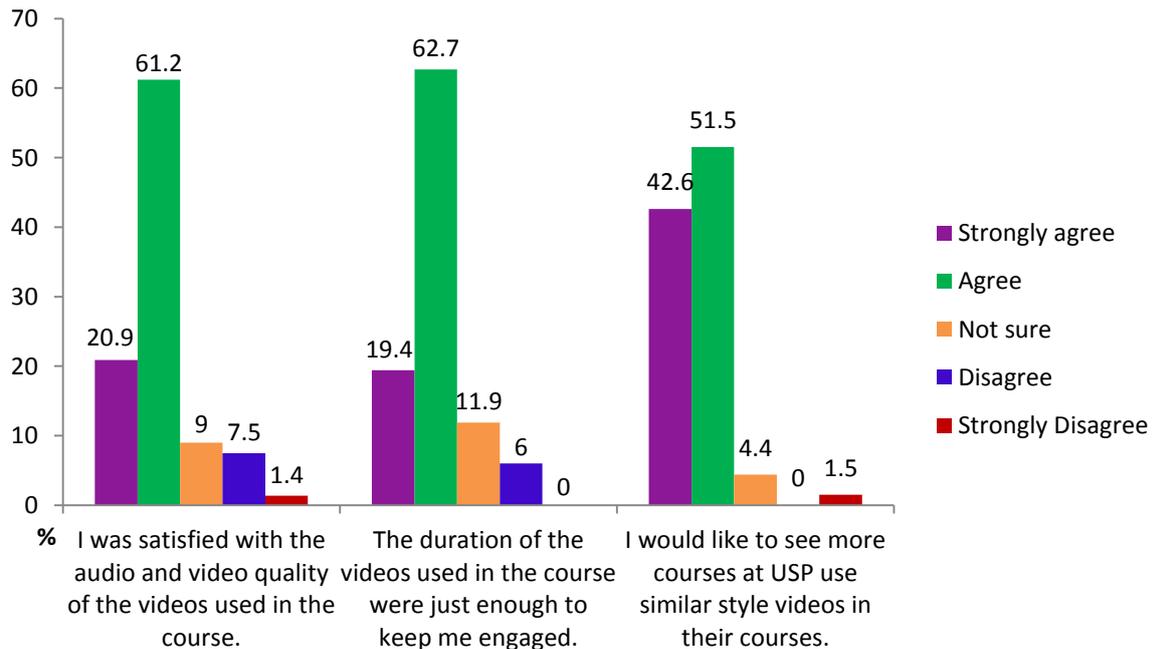


Figure 4: Average student responses (%) to all the survey statements on the effectiveness and usefulness of the instructor-generated short videos

A majority of surveyed students (86%) showed satisfaction of the overall quality and general appeal of the instructor-generated short videos used in the course. However, the results also showed that on average 7% of surveyed thought otherwise. About 82% of the surveyed students were satisfied with the audio and video quality instructor-generated short videos used in the course and found the duration of these videos engaging. An overwhelming majority of surveyed students (94%) indicated that they would like more courses at the University utilise similar style of videos (instructor-generated short videos).

These results are summarised in Figures 5 and 6.

Figure 5: Student responses (%) to all the survey statements on the student satisfaction of the overall quality and general appeal of the instructor-generated short videos in the course for Semester 1, 2017



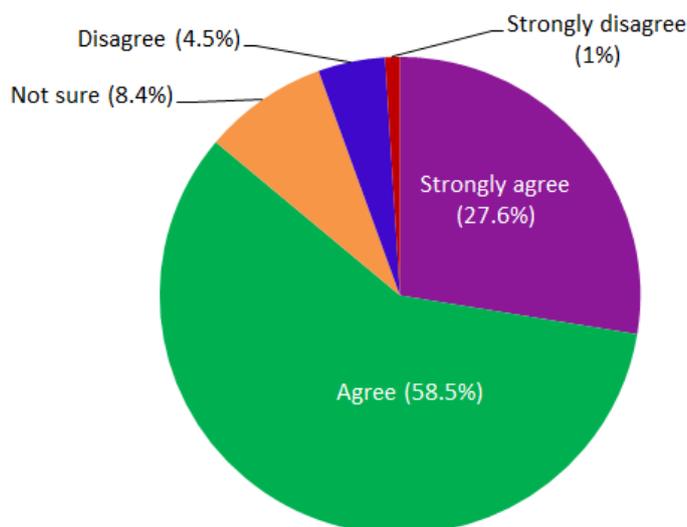


Figure 6: Average student responses (%) to all the survey statements on the student satisfaction of the overall quality and general appeal of the instructor-generated short videos in the course for Semester 1, 2017

Findings

The results of this study provide some interesting insights in the use of instructor-generated short videos. The major findings included: (i) students viewed more Unit videos compared to the Unit summary videos; (ii) students considered the instructor-generated short videos used in the course to be effective and useful in their learning; and (iii) students were satisfied with the overall quality and general appeal of the instructor-generated short videos used in the course.

Finding #1: Course students viewed more Unit videos compared to the Unit summary videos

The student viewership data (in Table 1 and, Figures 1 and 2) shows that throughout the semester, students were consistently viewing more Unit videos compared to the Unit summary videos with the difference in total average viewership being approx. 45 views per Unit. This difference/variance ranged from 81 to 27 views per Unit. Similarly, more students had viewed the Unit videos at least once in comparison to viewing Unit Summary videos at least once. This difference/variance ranged from 30 to 2 students with the total average of this being approx. 17 viewers per Unit. However, number of views of the both the videos were consistently decreasing from the beginning of the semester till the end, except for Unit 7 videos, where student viewership slightly increased.

Finding #2: Course students considered the instructor-generated short videos used in the course to be effective and useful in their learning

The student survey results (Figures 3 and 4) shows the majority of surveyed students considered the instructor-generated short videos used in the course were effective and useful in their learning and contributed to their overall satisfaction with the course. On statements "the videos helped me better understand this course", "the videos helped me develop a stronger understanding of the instructor" and "the videos contributed to my satisfaction with the overall course", about 88% of the surveyed students either agreed or strongly agreed.

The non-linear and self-paced nature of video technology allows students to interact with instructional video and this may enhance learner engagement, and so improve learning effectiveness (Zhang, Zhou, Briggs, & Nunamaker, 2006). This was evident from the student survey result as about 87% - 94% of

the surveyed students either agreed or strongly agreed with statements “I have gone back to re-watch the videos when I needed further understanding on a topic” and “I was able to learn more from the videos since I was able view at my own pace”

Finding #3: Student were satisfied with the overall quality and general appeal of the instructor-generated short videos

Student satisfaction with the quality and general appeal of the instructor-generated short videos were determined using the student survey. Figures 5 and 6 provide results regarding this. Khan (2012) had pointed out that short videos complement the optimal attention span of students, and this was true for this study as about 82% of the surveyed students were satisfied with the audio and video quality of instructor-generated short videos used in the course and found the duration of these videos engaging. An overwhelming majority of surveyed students (94%) indicated that they would like more courses at the University utilise similar style of videos (instructor-generated short videos).

Conclusion

Findings from this study indicate that instructor-generated short videos were effective and useful to student learning experiences. Moreover, students had general satisfaction with the quality and appeal of these types of videos. However, the findings of this study must also be viewed within its limitations. The sample size used was relatively small (25%). Except for gender, there were no other demographic data available on any of the surveyed students. The survey instruments were not tested for reliability and validity prior to the survey. These factors could also have influenced the results.

Future research should include a bigger sample size to consolidate and affirm the results from this study and should also consider other demographic data such as age and familiarity with instructor-generated short videos. A qualitative approach should be utilised to augment this study. Additionally, future work in this area should also focus on the impact of instructor-generated short videos on students overall experiences and achievements.

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