

The Influence of Instructor-Generated Video Content on Student Satisfaction with and Engagement in Asynchronous Online Classes

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Abstract

Studies on the influence of video content on student outcomes in online courses generally reveal two consistent and contradictory themes: students perceive value in the content, but there is no measurable difference in student outcomes in courses that use video content. This study examined the influence of instructor-generated video content on student satisfaction (measured by satisfaction surveys), student engagement (measured by number of and length of discussion postings), and performance (grades and persistence). Findings included a high degree of perceived value from students through course surveys, which was consistent with the literature. Grades increased by 3.2% and student persistence rates were unaffected. Number and length of student discussion postings both increased in groups that used instructor-generated video content.

Keywords: instructor-generated video content, student satisfaction, student engagement, online discussion

Introduction

The growth of online learning has been one of the most important trends in higher education. The growth rate of fully integrated online schools and traditional university offerings of online programs continues to rise, and the number of students involved in these learning environments is also high ([Allen & Seaman, 2011](#)). One of the challenges in offering online education is to simulate the dynamics of the classroom environment in which much of the learning process takes place ([Heerema & Rogers, 2001](#); [Revere, 2003](#); [Rourke, Anderson, Garrison, & Archer, 2001](#)). Generally, most asynchronous online courses use discussion boards as the primary mechanism of interaction between faculty and students ([Baker, 2011](#)). Another challenge in this learning environment is forging connections between faculty and students ([Garrison & Vaughan, 2008](#); [Suarez-Brown, Grice, Turner, & Hankins, 2012](#)). Strong relationships between faculty and students have consistently been viewed as a primary factor in student success and satisfaction ([Fabry, 2009](#); [Fedynich & Bain, 2011](#); [Hartmann, Widner, & Carrick, 2013](#); [Ross, 2008](#)). However, forging relationships in an online environment presents unique challenges. One

method of developing stronger connections between faculty and students is by having individual faculty develop personal video content that can be integrated into asynchronous online courses (Knee, Musgrove, & Musgrove, 2000; [National Teacher Training Institute, 2006](#)). Development of improved video techniques in online learning platforms and the cultural acceptance of videos in everyday life make the use of instructor-generated video content within online education an important area of study (Revere & Kovach, 2011; Robinson & Stubberud, 2012). Given the growth of online education, the demonstrated relationship between student engagement and success, and the increasing ease of use and familiarity of both students and faculty with video content, assessing the influence of video content on student related success metrics is an important area of study.

The study reported in this paper examined the following question:

What is the influence of instructor-generated video content on overall student satisfaction with and engagement in asynchronous online courses?

The answer to this question is important because with the demonstrated growth and continued usage of online learning among universities, factors that contribute to improving this educational technology need to be studied and used to inform the development of best practices to improve the educational experience for students. With this research question in mind, this study was developed to understand how instructor-generated video content was created and utilized, and then its influence was examined.

Literature Review

Understanding Teaching and Learning in Online Courses

The primary theoretical framework for understanding the nature of the relationship between online instruction and learning is provided by the *community of inquiry* (CoI) framework. According to [Shea and Bidjerano \(2009\)](#), [Garrison, Anderson, and Archer's \(1999\)](#) CoI framework provides a basis for how learning occurs in online environments. This theory states that instructor presence in an online course contains cognitive, social, and teaching aspects that are distinct and measurable, although cognitive and social presence are largely seen as primarily student variables. These different presences contribute significantly to the overall student experience. This theory developed from early studies on learning theory (Piaget, 1977; Vygotsky, 1978) and asserts that in online environments, learning occurs within a community of inquiry in which the individual bears primary responsibility for learning material and arrives at understanding based on experiences and interactions within the online environment ([von Glasersfeld, 1989](#)). Technology plays a critical role within this environment and video content has been increasingly viewed as a mechanism to enhance learning as well as to increase presence for instructors, especially in the social and teaching areas.

The Use of Instructor-Generated Video Content

The use of video in online courses has been examined in several studies. [Griffiths and Graham \(2009\)](#) evaluated the use of instructor-generated video content on students. Students were given much of the content in an asynchronous online course in video segments created by the instructor. Findings indicated that students reported a closer connection to the instructor than in a face-to-face class, and they also reported receiving greater individual attention and feedback. They also found that student responses to assignments were improved. [Mandernach \(2009\)](#) reported that use of instructor-generated multimedia in online courses produced conflicting results. This study examined the influence of a range of video content on student outcomes. Results indicated that student perception on the impact of multimedia in the online environment did not match actual course outcomes. His conclusion was multimedia did not produce significant differences and that administrators should be cautious regarding the cost-benefit analysis of multimedia in asynchronous online courses. Harris (2002) indicated that the advantages of multimedia based instruction in online courses was more a matter of perception rather than reality and that while students tended to perceive value in this approach, there was no real metric that validates this hypothesis. [Kovach, Ding, and O'Neil \(2010\)](#) evaluated positive student learning outcomes associated with significant use of multimedia, including podcasting and video enhanced learning. They stated that use of new and emerging technologies can help generate interest and keep virtual classrooms engaged in the learning process. The literature suggests that there may be conflicting views on the value of video content on student outcomes. It is in this area that this study adds to the body of knowledge regarding online education.

Using Video Content to Increase Instructor Social and Teaching Presence in Asynchronous Online Courses

One area that video content may have an influential role in is developing instructor social presence. Instructor social presence, which has traditionally been viewed as a student variable, in virtual learning environments is an influential factor in the overall student online experience. Short, Williams, and Christie (1976) developed the theory of social presence, which although originally viewed as an attribute of the mode of communication later evolved to include participant feelings and perceptions. Groups that have weak presence tend to have members that are more disconnected and less cohesive. [Baker \(2010\)](#) evaluated the relationship between instructor immediacy and presence as predictive factors in online student learning. She concluded that there was a relationship between immediacy and social presence and student learning and motivation. [Ladyshevsky \(2013\)](#) reported that faculty play a critical role in a more distributed perception of social presence in asynchronous online courses, and [Rovai \(2000\)](#) indicated that instructor social presence was a contributing factor to developing an online sense of community that was positively linked to improved student outcomes.

[Richardson and Swan \(2003\)](#) evaluated the influence of instructor social presence and its relationship to student satisfaction and perception of learning. Their findings indicated that there was a relationship between students' perception of instructor involvement and evaluations of both overall course satisfaction and the individual instructor. Lear, Isernhagen, LaCost, and King (2009) also described the contributions of instructor engagement in online learning environments and its relationship to improved outcomes. [Miller and Redman \(2010\)](#) concluded that instructor-generated video content not only improved student satisfaction and perception of value, they also concluded that such content improved student attitudes towards the content and increased their mastery of material.

[Borup, West, and Graham \(2012\)](#) concluded that instructor social and teaching presence was improved with the use of instructor-generated video content, although improvements in course outcomes did not seem to be significantly impacted. Student evaluations of the instructor, however, were improved. [Shea, Vickers, and Hayes \(2010\)](#) examined the methods for evaluating teaching presence in online learning environments. They determined that teaching presence has consistently been underestimated using traditional metrics and that the personality and presence of the instructor comes through in many subtle and difficult to measure ways. They also discussed the positive influence of instructor-generated material in creating presence in online courses. [Ice, Curtis, Phillips, and Wells \(2007\)](#) determined that use of alternate media, in this case audio feedback, to students enhanced student perception of faculty presence within online learning environments. This study further recommended that online instructors continue to adopt technological innovations that make greater personal connections to students. They also concluded the use of instructor-generated video content would create increased presence for students. The literature in this area suggests that presence, especially social and teaching presence, is increased using video content.

The Influence of Instructor-Generated Video Content on Student Engagement in Asynchronous Online Courses

Measuring student engagement can be a challenging task given many different dimensions to the phenomena. [Cheung, Hew, and Ng \(2008\)](#) analyzed why students chose to engage or disengage in asynchronous online discussions. Their study concluded that students who felt a stronger relationship to either the instructor or another class member was the most common motivational factor for participation in discussions. They also concluded that the instructor played a critical role in developing and fostering these relationships in the discussion forums. [Dennen \(2011\)](#) also evaluated the influence of instructors in creating an environment that was conducive to greater discussion participation. He concluded that it was the timeliness and substantive nature of instructor feedback in the discussions that contributed to greater student contribution.

[Griffiths \(2010\)](#) discussed technological innovation in the online learning community and consistent trends in online education towards more engaging techniques for students. His analysis included recommendations that video content, both from the instructor and from outside sources, can enhance discussions and allow for timely real world applications for students, which enhances the learning experience and overall engagement among students. Tu and Corry (2003) evaluated best practices for online discussions and student engagement. While their study does not specifically address the influence or use of instructor-generated video content, the best practices described lend themselves very effectively to the use of such instructor-generated video content.

The literature on the use of instructor-generated video represents generally consistent themes; students perceive that there is value in this content and generally report greater satisfaction. However, there seems to be little evidence that this translates into improved outcomes in terms of class participation and grades. It is in this area that this study provides a valuable contribution to the literature on this subject.

Method

Most research on asynchronous courses indicates that instructor presence in the course is a critical factor in the success of the course and influences student satisfaction ([Davidson-Shivers, 2009](#); [Dennen, 2011](#); [Griffiths & Graham, 2010](#)). Community of Inquiry theory provides a framework for examining the phenomenon of presence ([Garrison & Arbaugh, 2007](#); [Goos, 2004](#); [Hagaman, 1990](#); [Sexias, 1993](#); [Shea, Hayes, et al., 2010](#)). According to this theory, presence can include teaching, social, and cognitive presences as separate and measurable factors in online learning environments ([Gunawardena & Zittle, 1997](#); [Richardson & Swan, 2003](#); Short et al., 1976). In most asynchronous courses at this university, presence was primarily cognitive in nature and came in the form of typed discussion postings and announcements, with very limited visual images of the instructor ([Garrison et al., 1999, 2001](#); [Shea & Bidjerano, 2009](#)). Also, the material presented in the course was delivered through prerecorded PowerPoint presentations with a generic narrator that was not the actual course instructor, further limiting the impact of instructor teaching presence (Andersen, 1979).

The University under study then offered an opportunity to add video content to asynchronous online courses. This provided the opportunity for the study, three previous sections of the course taught by the same instructor had not been exposed to any video content and now without any other changes to the course or the instructor, a new variable, instructor-generated video content was added. For this study, one instructor volunteered to create video content to add to his course shells. This content was the independent variable and was measured in several different ways.

By evaluating any differences among measurements of satisfaction and engagement, the study examined the influence that instructor-generated videos had on satisfaction and engagement.

Creation of Instructor-Generated Video Content

The creation of the instructor-generated video content was accomplished to satisfy several different dynamics often associated with a lack of connection with faculty that is often cited as a factor of dissatisfaction for online students ([Jackson, Jones, & Rodriguez, 2010](#)). First, the issue of content delivery was addressed. The format the University uses consistently for all online courses consists of bi-weekly narrated PowerPoint presentations. Qualitative feedback from previous student surveys of this course, and other university courses, indicated that this content was "brief," "dry," and "not very helpful."

In an effort to provide a more personal experience for the students, the instructor created lectures of 45 to 55 minutes in length, which were recorded in the classroom and simulated an actual in-class experience. These videos were then uploaded to [YouTube](#) and from there uploaded to the online course shell. YouTube has become an increasingly popular tool for online educators, since so many students are familiar with this medium ([Abendroth, Golzy, & O'Connor, 2011-2012](#); [Nicholson, 2010](#)). An 8-minute video welcome message was also created and placed in the opening week of the course shell. Additionally, three separate videos were created to help students understand the parameters, expectations, and grading rubrics for the major writing assignments. These were also done in the classroom and uploaded to YouTube and then to the course shell. Videos were added to the weekly discussion postings, and weekly messages were also created as videos rather than in text format only. To show students a more personal side to the instructor, these videos were made from the instructor's home, in a less formal setting. Since these were made each week and not prerecorded before the term, it allowed the instructor to address actual class issues and to use students' first names in responding to their discussion postings (Sugar, Martindale, & Crawley, 2007).

Delivery of Instructor-Generated Video Content

Delivery of the instructor-generated video content was done in several ways. The video content did not replace any existing content in the class. Therefore, the PowerPoint presentations of course material were retained and several standard weekly announcements were presented simply in typed format. Each week a "welcome" video message was posted, along with a weekly video lecture. The video lecture contained all the information in the PowerPoint presentation and augmented it with greater examples and analysis. Each discussion question began with an instructor-generated video discussing

the topics and offering points for students to address in their discussion postings. The delivery of the instructor-generated video content was designed to create a culture within the class that approximated a more intimate experience for the student and allow for the personality of the instructor to become a part of the course dynamic and increase instructor social presence within the course ([Anderson, Rourke, Garrison, & Archer, 2001](#); [Calk, Alt, Mills, & Oliver, 2007](#); [Shea & Bidjerano, 2010](#); Wiener & Mehrabian, 1968). The purpose of this study was to examine the role that instructor-generated video content played in measurable student outcomes such as success and satisfaction and to place this role within the context of the growing literature on this subject.

The development of instructor-generated content in general is not new and has been a driving part of online education for years ([Sherer & Shea, 2011](#); Singh, Mangalaraj, & Taneja, 2010). However, this study was done at an institution that populates its courses with non-instructor generated content (i.e., preloaded PowerPoint slides, discussion questions, and assignments) and instructor input into assignments, discussions, and assessments was quite limited. That allowed for a baseline of data on how students perceived these types of classes and how engaged they were in class. It also allowed for an assessment of the strength of their relationship with the instructor. Each term, students were asked to complete a survey of course instruction in which they evaluated the overall effectiveness of the teacher. This survey, called the SOP (Student Opinion Poll) is administered and collected for all courses and data are presented only in aggregate form to the instructor. Scores from this survey would serve as one method of measuring overall course satisfaction and satisfaction with the instructor.

In order to examine the influence of instructor-generated video content a study was developed involving one instructor over a period of three consecutive terms in which he taught multiple online sections of a single course. An upper-level management course was selected for this study and Blackboard served as the delivery platform. This course is standardized throughout the University, with all discussion questions, projects, and exams consistently used with minimal changes permitted by individual instructors. The courses run for 11 weeks and consist of 22 discussion questions, 11 exams, and three written projects. Nine total sections were used for this study ($n = 251$), and all were taught by the same instructor. Three sections from the spring term were used as a control group. These groups ($n = 79$) received no instructor-generated video content. Six sections ($n = 172$) from the Fall and Spring terms were used as the experimental group. All assignments, expectations, and other material remained the same as those used in the control group. However, these groups received substantial instructor-generated video content. The video content included:

- a video welcome message at the beginning of the course;
- weekly video lectures from the instructor to augment the usual university-wide PowerPoint with audio;
- at least two video discussion postings per discussion question each week;
- video instructions on expectations for written assignment; and
- video messages, generally two per week, to discuss relevant topics for the week.

All video content was created and stored on YouTube and uploaded to the course shell. The online delivery platform allowed for easy insertion of YouTube video material. This ease of use was facilitated by a change in Blackboard. In previous terms, the University did not encourage video use and Blackboard did not support uploading videos other than placing a link. In this way, the control group was not hindered in their learning for the purposes of this study, since the use of instructor-generated content was not widely used at this university. In order to measure the influence of this instructor-generated video content, the following methods were developed:

- To measure overall student satisfaction with the course and with the instructor, scores from two separate surveys were used. First, SOP scores were compared between the control and experimental groups and analyzed for significant differences using *t*-tests and analysis of variance (ANOVA) tests. Data from this survey was given only in aggregate form for each course and no individual data was made available. Secondly, during Weeks 9 through 11 of the course, students were sent an email asking them to complete a general survey of their overall experience in the class and to assess both the individual instructor and the course itself. This survey was developed by the authors based on issues related to the use of video content described in the literature ([Puleston, 2011](#)). The survey was reviewed for validity by two content experts, and

internal consistency of the data was confirmed using Cronbach's alpha ($\alpha = .84$) (Pallant, 2007). These surveys were used as measurements of overall satisfaction. The survey also included a section for student comments. These were treated as qualitative data and evaluated for themes and insights. An additional metric on overall student satisfaction was the withdrawal rate from the course. This rate was also compared for both groups.

- To measure student engagement in the class, the number and depth of student interaction in discussion threads would be evaluated. Comparison of average number of weekly posts between the control and experimental groups served as one indicator of overall engagement (Handelsman, Briggs, Sullivan, & Towler, 2005). Additionally, the depth of student postings was also measured. Measuring depth and quality of discussion threads is a challenging and oftentimes arbitrary assessment. Bali and Ramadan (2007) used content analysis, including number and length of postings, and reported that these factors were indicative of the degree of engagement in an online course. For purposes of this study, average number of characters per post was used. The underlying assumption for this metric was twofold: first, if students were actively engaged in an online course, it was reasonable to assume that they were more likely to develop more detailed and informative discussion postings, secondly, the online platform measured this statistically, which made data collection feasible.
- A survey was developed to assess the students' perceptions on the value of instructor-generated video content. During Week 9 of the course, a message was posted in the course shell asking students if they would voluntarily take a survey on the instructor-generated video content and a link to the survey was provided. This survey was only given to students in the experimental group. Examination of the survey results would also be used to measure the influence of instructor-generated video content on overall student satisfaction and engagement during these online classes.

Results

After the conclusion of the study, data were organized for analysis. Using YouTube analytics, measures were calculated to assess the amount of time that students viewed instructor-generated video content. This would serve as one indicator of the overall effectiveness of instructor-generated video content. The results are summarized in Table 1.

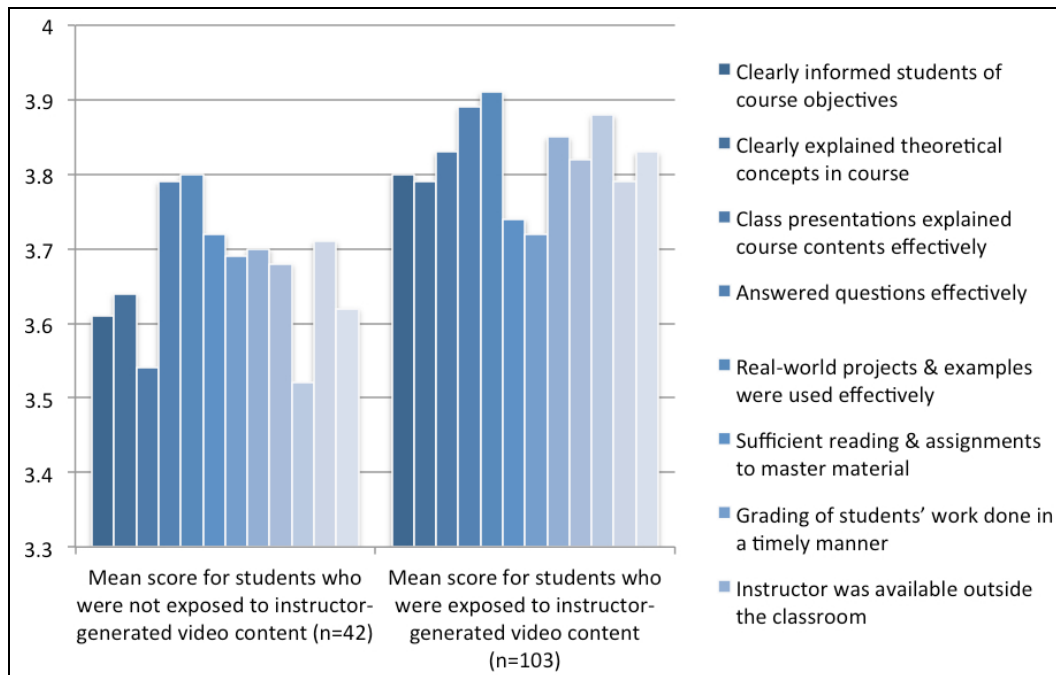
Table 1. *Descriptive statistics on number of views and minutes spent on instructor-generated video content*

Instructor-Generated Video Content	Total No. of Videos	Total Minutes of Video Content	No. of Video Views	Approx. Minutes Viewed	Approx. Minutes Viewed Per Student
Weekly course material lectures	10	485	145	62,640	364.19
Weekly discussion posting	22	78	2,970	10,514	61.13
Weekly messages, announcements, and welcome	12	79	1,716	11,291	65.65
Totals	44	642	4,831	84,445	490.97

Several important elements emerged from an analysis of the data in Table 1. It was apparent that a large degree of video content was reviewed by students, the mean per student amounted to over 8 hours of additional material for this class. Secondly, the lecture content material was by far the most viewed by students, accounting for 74.2% of all video content watched. Student course evaluations (SOPs) were collected at the end of each term and mean scores for both the experimental and control groups were calculated. This data would serve as one indicator on the influence of instructor-generated video content on student satisfaction with the course and with the instructor. This information is summarized in Figure 1.

An independent samples *t*-test was conducted to compare the SOP scores for both groups. There was a significant difference in scores for students who had not been exposed to instructor-generated video content ($M = 3.62$, $SD = .90$) and those who had used instructor-generated video content ($M = 3.83$, SD

= .60). The size of the effect was measured using eta-squared and was .496 indicating a moderate effect (Pallant, 2007). Additionally, an analysis of variance between the means was conducted using an ANOVA test, which also confirmed statistical significance ($p < .000$).



Note. Students were asked to rate faculty on a scale of 1 to 4, where 1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, and 4 = *strongly agree*.

Figure 1. Student course evaluation (SOP) given in Weeks 9 through 11 of course

In order to examine the influence of instructor-generated video content on student engagement in the course, involvement (number of postings per week) and depth in discussions (number of characters per post) were used as metrics. In order to measure this, mean numbers of total weekly discussion posts per discussion question were calculated. This would serve as an indicator of involvement in the course. Each week, the instructor would post video content in place of initial typed discussion comments. Follow up discussion comments continued to be typed with occasional use of short webcam video responses. This information is summarized in Figure 2.

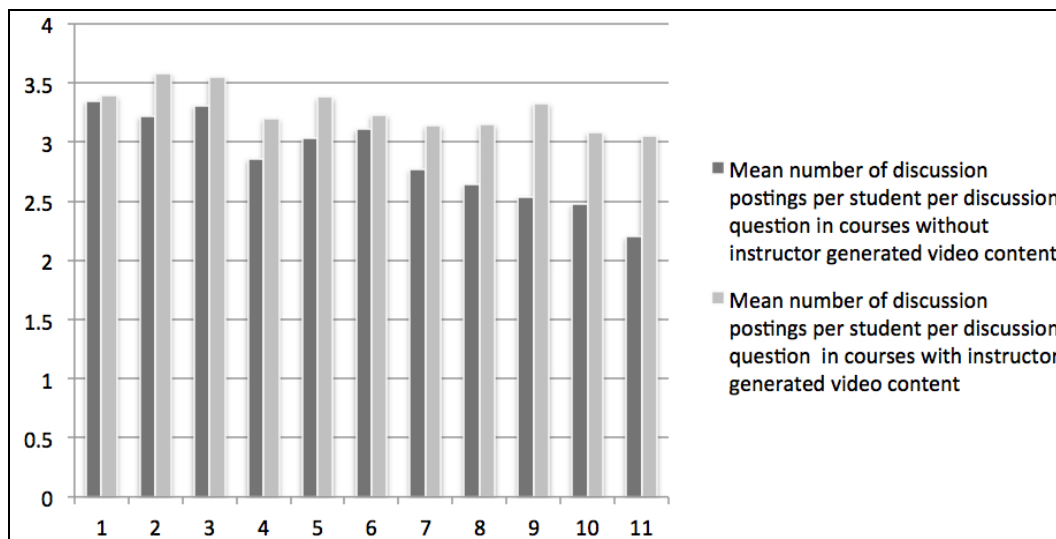


Figure 2. Comparison of mean number of discussion postings by student per week per discussion question

An independent samples *t*-test was conducted to compare the means of discussion posts per week for both groups. There was a significant difference in scores for students who had not been exposed to instructor-generated video content ($M = 2.86$, $SD = .374$) and those who had used instructor-generated video content ($M = 3.28$, $SD = .181$). The size of the effect was measured using eta-squared and was .667 indicating a moderate effect (Pallant, 2007). Additionally, an analysis of variance between the means was conducted using an ANOVA test, which also confirmed statistical significance ($p < .003$).

An additional measure of student engagement in the discussions was the overall length of discussion postings. This was measured by calculating the mean number of characters in each posting by students per discussion question. This information is summarized in Figure 3.

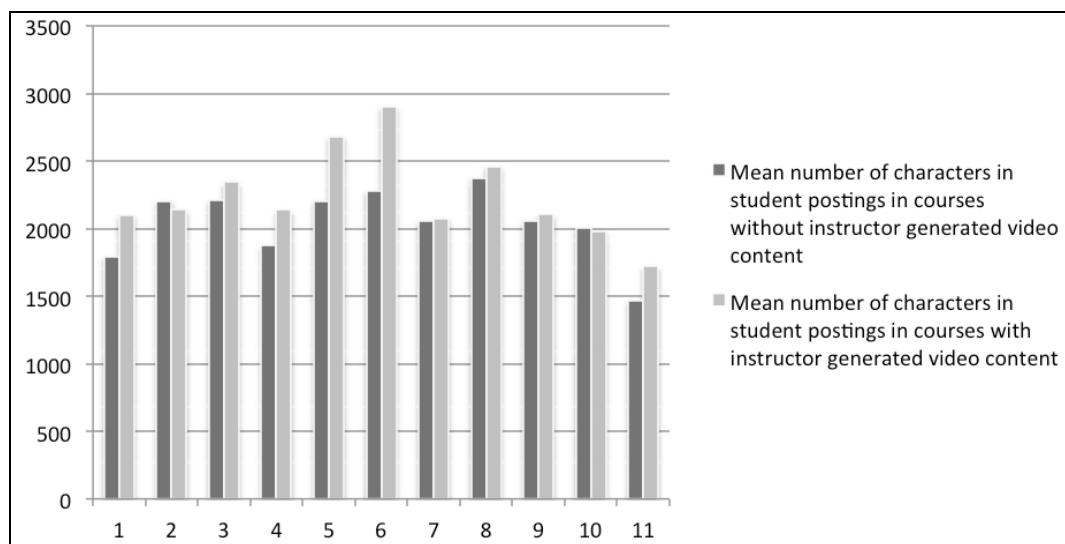


Figure 3. Comparison of mean number of characters per discussion post per academic week

An independent samples *t*-test was conducted to compare the number of characters per posting for each group. There was no significant difference in scores for students who had not been exposed to instructor-generated video content ($M = 2,029$, $SD = 259$) and those who had used instructor-generated video content ($M = 2,240$, $SD = 333$). Additionally, an analysis of variance between the means was conducted using an ANOVA test, which also confirmed a lack of statistical significance ($p = .146$). Two other metrics examined were grades and student withdrawal rates from the courses. Grades did increase overall by 3.2%, however, an independent *t*-test comparing grades between the experimental and control groups determined the difference was not significant ($p > .050$). The rate of withdrawal from the course was also not a significant factor and the rate (9.6%) was consistent with the University average for all sections of the course that was the subject of the study.

Students' perceptions about the influence of instructor-generated video content were also measured using a survey. This information is summarized in Table 2.

Discussion

The results of the data analysis yielded some interesting findings. The major findings included: students viewed a considerable amount of instructor-generated video content during the course, overall satisfaction with the course was improved, student engagement in discussions increased in both number of responses and depth of responses, and student perception of the value of instructor-generated video content was validated.

Finding #1: Students Viewed a Considerable Amount of Instructor-Generated Video Content

Table 1 illustrates the amount of instructor-generated video content viewed by students. Students averaged 8.18 hours of such content during the course. General university parameters for online courses at this institution suggest that students spend approximately 5 to 6 hours per week on each online course. This amounts to between 55 to 66 hours. Assuming the higher limit, the instructor-generated video content contributed 12.4% of recommended time involved in course activities. The primary drivers of student involvement in this aspect were the weekly lectures (364.19 minutes per

student). Student comments (taken from the SOPs administered each term by the University) also expressed the variety and quality of instructor-generated video content:

"Videos were a lot more informative than the usual PowerPoint slides"

"I really enjoyed the lecture videos, it made me feel like I was in class"

"The lecture videos took a lot of time to watch but really helped be understand the material a lot better"

Table 2. Results from survey administered to participants during Week 9 of the 11-week course asking for feedback on instructor-generated video content

Statement	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	M
1) The instructor-generated video content helped me better understand the course material required for this course.	1	17	31	34	3.18
2) The instructor-generated video content helped me develop a better understanding of the assignments and discussions used in this course.	0	6	50	27	3.25
3) The instructor-generated video content helped me develop a stronger understanding of the instructor.	1	5	14	63	3.67
4) The instructor-generated video content contributed to my satisfaction with the overall course.	0	11	35	37	3.31
5) The instructor-generated video content helped improve my grade in this course.	5	20	25	33	3.04
6) I would like to see more courses use instructor-generated video content.	0	7	16	60	3.64
7) Getting to know the instructor better because of the instructor-generated video content would make me more comfortable about contacting them about a class issue.	7	11	40	25	3.00
8) The instructor-generated video content made the class feel more like a traditional campus based class.	9	10	45	19	2.89

Note. N = 83.

Many students also commented that they no longer even viewed the inserted PowerPoint presentations and that the instructor-generated video content had replaced that aspect of the course. This was somewhat surprising as the instructor-generated video content was originally designed to supplement the PowerPoint presentations. This also indicated that students were spending greater time in the course shell, since the running time on the PowerPoint slide show averaged 11.4 minutes per week, while the instructor-generated video content lectures averaged 48 minutes per week.

Finding #2: Overall Satisfaction with the Course Was Improved

Student satisfaction was measured in several ways. Figure 1 provides insights regarding the influence of instructor-generated video content on student satisfaction, especially in relationship to the instructor. Mean scores were higher on all metrics and indicated that the instructor-generated video content had a positive influence on overall course satisfaction. On the metric of "Overall, the instructor was an effective teacher," the score increased by 5.8% for students that had viewed instructor-generated video content. Instructor-generated video content also had a moderate influence on student grades in this study. The mean grade in the control group was 82.4%, and the mean grade in the experimental group was 85.6%, an increase of 3.2%. However, instructor-generated video content had no effect on withdrawal rates for

either group, each having a 17% withdrawal rate, which was consistent with the overall withdrawal rate for this management course across the entire university.

A qualitative analysis was done on student comments taken from the SOP. Overall, 63 separate written comments were received on surveys from students that were exposed to instructor-generated video content. These comments were evaluated by two coders for emerging themes and then compared (Creswell, 1998). Three major themes emerged from this analysis:

- 1) *Greater personal connection to the instructor due to video content* (19 incidences) – illustrated by "I really thought that the videos allowed me to get to know the professor a lot better, which made the class more enjoyable";
- 2) *Positive evaluation of the instructor due to video content* (15 incidences) – an example of this was the following comment: "It's great to actually see a teacher care enough to devote that kind of time to the course. This was certainly one of the most interactive and enjoyable courses I have taken at this school";
- 3) *Overall satisfaction with class because of video content* (13 incidences) – an example was: "This was the best class I've ever taken online. The videos made the class so much more like an actual classroom. I loved this and hope more teachers will do it."

Finding #3: Student Engagement in Discussions Increased in Both Number of Responses and Depth of Responses

Student engagement in discussion questions was measured by the mean number of responses per student to each discussion question and by the number of characters per response. The results in Figure 2 indicate that the number of responses increased by 14.7% for students that were exposed to instructor-generated video content. This result was one of the more surprising aspects of the study since the instructor-generated video content for the discussions amounted to a little more than an hour of total viewing time by the students. It is possible that the greater personal culture and increased instructor social and teaching presence developed through the use of instructor-generated video content created an environment which was more encouraging to students in regards to discussion activity (Arbaugh, 2010). Additional comments by students further confirmed this finding:

"I really liked the video discussion segments because they really got me thinking about the topics"

"Discussion videos really sparked a lot of good debate"

Additionally, instructor participation in the discussion increased as well. There is an obvious relationship between the amount and quality of student discussion postings and instructor responses and degree to which the instructor became increasingly involved with the discussions was increased. Postings per week, by the instructor increased by 14.3% overall in the classes in which instructor-generated video content was presented (Durrington & Yu, 2004). There seems a clear connection between the use of instructor-generated video content and engagement in discussions for both students and instructors. Evaluating the degree to which increased engagement was more a result of the video content or the increased presence of the instructor was a limitation of the study and was difficult to separate. However, the instructor prior to the teaching the courses with video content agreed to attempt to maintain the same degree of initial postings that he did in the control group. That would force the students to make the first move to be active in the course and provide a degree of separation between these two constructs. This relationship would also provide a further area for study.

Finding #4: Students Perceived Value in Instructor-Generated Video Content

Student perceptions on the value of instructor-generated video content provided some interesting findings. Student perceptions were measured using a survey that was made available between Weeks 9 and 11. Eighty three of the possible 172 (48.3%) responded to the survey. The survey indicated that students were highly receptive to instructor-generated video content and that they perceived it had significant value. On the statement "I would like to see more courses use instructor-generated video content," 91.5% of participants either agreed or strongly agreed with that statement. Instructor-generated video content also allowed students to develop a stronger relationship with the instructor. On the statement, "The instructor-generated video content helped me develop a stronger understanding of the instructor," 92.8% of participants either agreed or strongly agreed with that statement. Overall, the

mean score for all statements on the survey was 3.25, indicating that students' perceived instructor-generated video content had value.

Contribution to Current Literature

The literature suggests that students perceive value when instructors use video content. Consistent with [Griffiths and Graham \(2009\)](#) and [Mandernach \(2009\)](#), students did perceive value as measured through overall course satisfaction scores, and while grades did improve, the change was not significant. It was in the area of instructor presence, particularly social and teaching, that this study contributes to the literature. It does appear that increased instructor social and teaching presence, which was increased using instructor-generated video content, had a relationship with increased student participation and satisfaction with the online experience ([Baker, 2010](#); [Dennen, 2011](#); [Garrison & Arbaugh, 2007](#); [Shea & Bidjerano, 2010](#)).

Conclusion

Findings from this study indicate that instructor-generated video content can have a positive and moderate influence on student satisfaction with and engagement in asynchronous online courses. On most metrics evaluated, especially student surveys, the perceived values were matched by measurable outcomes. There may also be other benefits that manifest themselves when using instructor-generated video content. While measuring classroom culture was not a part of this study, it did appear that overall engagement, which was a by-product of classroom culture, was influenced by instructor-generated video content. Student comments about the classroom feeling created by this content hinted at the cultural dimension this content created and may constitute an area for further study.

Some of this study's findings are different than other studies on this phenomenon, especially in areas of student outcomes (Harris, 2002; [Mandernach, 2009](#)). While these earlier studies focused on smaller amounts of instructor-generated video content that was focused on course content, this study provided a more comprehensive approach to the use of instructor-generated video content. It is possible that by using instructor-generated video content in all aspects of the course, lectures, announcements, and discussions, greater influence of the content manifested itself. Additionally, this study's use of YouTube as the primary delivery mechanism may have contributed to the greater use, and therefore, influence of this content, since many students are familiar with this technology ([Nicholson, 2010](#)).

There were some interesting areas for further research produced by this study. While the overall influence of instructor-generated video content does appear to be validated by this study, the full impact of how it can influence students overall experience should be studied in greater depth, and a qualitative study would be an important next step in this research. Additionally, while the study gave aggregate data for number of views and minutes watched, some demographic breakdown as to who is actually watching might be instructive, especially given the lack of impact on student withdrawal rates from these courses.

The findings of this study must also be viewed within the limitations of the study. The sample used was relatively small and confined to one institution, and was limited by the scope and format of asynchronous courses used by this institution. Additionally, no demographic data was available on any of the participants in this study and that factor might also have influenced the results. Also, since the YouTube videos were listed as "public" to facilitate ease of use for students, it is possible that non-students also viewed the videos, which could compromise the statistics in YouTube Analytics. While the study demonstrates the potential for instructor-generated video content to positively impact student participation and satisfaction, another challenge is the amount of time that must be invested by the instructor to create such content. In this study, the participating instructor estimated that the development, editing, and uploading of video content added 25 to 30 hours of work. While technology continues to be a driving force in creating more innovative online instructional tools, the creation of instructor-generated video content could be considered a primary tool for successful asynchronous online courses.

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