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Comparison of Faculty and Student Perceptions of Videos in the Online Classroom

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Comparison of Faculty and Student Perceptions of Videos in the Online Classroom

Abstract

While instructors and students generally value the integration of videos in the online classroom, there are a number of practical considerations that may mediate the utility of videos as a teaching and learning tool. The current survey examines faculty and student perceptions of videos in the online classroom with an emphasis on the practical factors that influence video integration. Results indicate differences in faculty and student acceptance and endorsements of videos for content presentation compared to assignment feedback. Faculty desire more opportunities to interact with their students (i.e., video-based discussions, video-conferencing, and student-generated videos) and highlighted efficiency as a key consideration. Students emphasized a desire for multiple opportunities to engage with course material; while students value text-based resources, they also want to have options to learn and interact via video and audio. Key to student recommendations is an awareness of the time involved to engage with online videos. Discussion highlights practical approaches to maximize the value and utility of videos in the online classroom.

Keywords

videos, instruction, perception, motivation, feedback, student, faculty, efficacy, instructor presence, satisfaction, learning environment, interactives, Web2.0, preferences, engagement

Introduction

With over six million students enrolled (Allen & Seaman 2017, p. 4), online learning is transforming higher education. Tichavsky et al. (2015) report that expanded online course offerings have led to the dramatic increase in enrolment over the years. In a report by the Online Learning Consortium (2016, p. 2), one-fourth of tertiary students were studying online, and the numbers are continuing to trend upwards. Despite the growth in online learning, students perceive online and face-to-face instruction very differently. Students' perception of their learning experience is one element integral to course success (Tunks 2012, p. 475). Perception of the learning environment is important to explore, as it heavily influences motivation to learn and academic achievement. Lizzio, Wilson and Simons (2002) found that university students' perceptions of learning environment influence their academic performance, learning pleasure and propensity to achieve learning outcomes. They (p. 32) concluded that students' positive implicit and explicit perceptions improved their general attitudes about their study. Positive perceptions are important in terms of the perceived level of course satisfaction, willingness to take future courses and likelihood of recommending the course to other students. Student-perception surveys are a common and viable way to assess the effectiveness of teaching instruction so that strategic changes can be made to enhance the learning environment (Delaney et al. 2010). Within this context, the current research offers a comparative analysis of faculty and student perceptions about the use and value of videos in the online classroom.

This large, comparative survey serves as a springboard for exploring attitudes toward video use in the online classroom. Uncovering the most effective pedagogical strategies to integrate into the online learning environment poses challenges for many course developers and educators (see, for example, Glance, Forsey & Riley 2013, p. 2). While research has uncovered several pedagogical elements that contribute to a quality online experience, experts agree that online pedagogical changes are needed to strengthen both content learning and the relationship between learner and instructor (Fayer 2017). One of these changes is improving the perception of instructor presence, as the environment is more removed from the instructor's presence in online courses than in traditional courses. Ladyshewsky's (2013) extensive case study indicated that instructor presence significantly affected students' reported levels of satisfaction in online courses. Tichavsky et al. (2015, p. 6), revealed that students preferred ground over online courses; they attributed this preference to the connection and support that students perceived were provided by their instructor's immediate presence. Johnson, Argon, Shaik and Palma-Rives (2000) compared the same graduate course with the same instructor offered in both traditional and online presentations and found a small increase in the perceived quality of the course and level of instructor support for the traditional delivery over online delivery.

Within the remote, asynchronous context of online teaching, the integration of videos provides an opportunity for faculty to establish student engagement. Not all online experiences are efficacious in terms of engaging and motivating students, conveying knowledge, etc. Isolating the characteristics and techniques, such as the use of videos, that support effective university teaching has always been of concern, yet there are varying views regarding what constitutes "effective". It is essential to revisit faculty and student attitudes about the value and impact of instructional videos to best meet needs in the ever-evolving landscape of technology-mediated teaching and learning. While there is a plethora of research indicating that both instructors and students generally perceive instructional videos favourably (see, for example, Hsin & Cigas 2013), rapid advances in educational technology continue to increase the range of options available for instructors to present content and establish their presence in the online classroom. As Karppinen

(2005, p. 236) noted, emotional connectedness created in audiovisual tools has some educational value, but this value depends on the way they are implemented within the learning situation and process. Professors have a plethora of both personalised and found audiovisual resource opportunities, from introductions to lecture to student feedback. These integrations should be explored through both learning-management systems and supplemental Web 2.0 tools. As these options develop, more research is needed to investigate instructor and student perceptions of the use of videos as a pedagogical tool, as well as attitudes toward various methods of integrating video.

Background: video use in online instruction

YouTube and general video adoption in online courses

Video-based learning is a growing reality for both entertainment and academic purposes. A recent Pew Report examining social-media use in the United States noted that approximately 75% of US adults and 94% of adults aged 18 to 24 use YouTube on a regular basis, which is an exponential rise from the past (Smith & Anderson 2018, p. 1). The use of video streaming for instruction is relatively new but gaining momentum (Riisman 2009, p. 2). Most experts agree it is a powerful and valuable tool in online courses due to its ability to compress some level of expertise in a condensed period of time (e.g. Aragon 2016) and convey multiple points of view (e.g. Verleur, Heuvelman & Verhagen 2011). Video-based instruction also provides a mechanism to cater for multiple learning preferences (Pintrich 2003, p. 671).

Perception and efficacy of videos

It is unsurprising that these third-party videos have been favourably received, especially among online students. Hybrid, traditional and online students agree that YouTube helps engage them in the learning process (Buzzetto-More 2015, p. 58). Videos for course content or presentations are also mostly well-received. In general, students have quite favourable responses to videos, partially due to the students' ability to control the content and pace of the material, such as the ability to pause when needed or skip past irrelevant content (Hartshell & Yuen 2009). Simplicity and self-paced access are strengths of video presentations, as demonstrated by Khan Academy's Successful One concept, which is a learner-based approach to videos. However, drawbacks include learner hesitancy to ask questions of their instructors after viewing videos (Andrews 2012, p. 26). A student survey by Tan and Pearce (2011) illustrated students' desire for YouTube videos as a prompt for discussion and further lecture by a live instructor, rather than a video used as a stand-alone presentation. Similarly, a study conducted by Tabor and Minch (2013) and a survey by Kelly, Lyng, McGrath and Cannon (2009) both showed that most students have positive perceptions of video integration in courses and agree that while videos enhanced their learning, they would not want to move to video- or distance-only platforms.

Several studies have investigated student perceptions of media integration in an online learning environment; a few have investigated faculty members' perceptions as well. Research conducted by Asri Siti and Santiana (2017) revealed that technology media create a more engaged learner and foster teacher creativity. In a survey by Pritchett, Wohleb and Pritchett (2013), those in educational fields perceived video sharing like YouTube and schedule-based enhancements as the best educationally based Web 2.0 tools. Even with this increase in acceptance, in terms of overall technology integration, instructors from a traditional setting starting online courses may not place as much value on technology in general, may prejudge the technology and may not feel they have enough time to learn and implement it (Koehler, Punyashloke, Hershey & Peruski 2004). This is

problematic, considering that evidence indicates that instructors' beliefs about video technology and their likeliness to use it in their courses are strongly correlated (Kim et al. 2013, p.84). In other words, those who view videos more positively are more likely to integrate it into their courses, and vice versa.

Perception and efficacy of instructor-created videos

According to a survey by Weinstein (2010), students perceiving their instructor as knowledgeable is a necessity in higher education. In the 21st century, perhaps such expected knowledge includes an instructor's ability to find and use current technology for better presentations, interaction and feedback. Leahy (2015) conducted an exploratory study surveying online university instructors' views concerning various types of videos. Results of the study found that instructors prefer third-party videos, such as YouTube, over instructor-created videos. Instructor perceptions regarding video usage varied, and depended on multiple factors such as time constraints, technological abilities, confidence level, instructor age, purposes of the technology and course (e.g. math, psychology).

Students perceive instructor-generated videos predominately positively. Rose's (2009) survey of online students' attitudes revealed that almost 100% of the students who watched the videos felt they knew their instructor more. Eighty-eight percent of the same group of students reported increased levels of learning and 44% desired even more instructor-created videos in the course. Interestingly, survey attitudes were fairly similar for face-to-face students (Rose 2009). Fayer's (2017) qualitative multi-case examination of instructor-created videos in online courses revealed that students perceived their experience positively and believed all courses should include them. In addition to their feeling more in sync with course content, students reported that instructor-created videos prompted a healthier relationship between student and instructor, in that they felt more connected to faculty, viewed teachers more positively and felt more comfortable taking the course. In a survey by Steele, Robertson and Mandernach (2017), students often chose to view instructor-created videos, and these personalised media fostered positive connections especially for first-year students. Borup, West, Thomas and Graham (2014) found that instructor social presence and positive and negative pathos increased qualitatively for students in hybrid courses, yet no quantitative significance was found.

It is clear that instructor videos create personalisation for learners, which is often lacking in the online environment. However, there is some debate about the efficacy of such videos. Mandernach (2009) studied online psychology courses in which comparisons were made between the implementation of no media, weekly instructor-created videos, weekly instructor-created videos plus audio PowerPoint Videos and audio PowerPoint plus video PowerPoint. A survey given to each of these student groups revealed that weekly videos were perceived most favourably. All provided media integrations showed increased student affinity for and familiarity with the instructor and course topic, but little change in knowledge acquisition versus the results of the control presentation without media. A comparative analysis of a control course with non-instructor-created multimedia, a course with added instructor-created videos, a course with video and audio presentations and a course with all of the instructor-created items including PowerPoint demonstrated that course satisfaction increased with these personalised media, but there was little impact on learning and engagement in comparison, so instructors may need to focus on personalised media that do not require extensive time and other cost factors to implement (Mandernach 2009). Perhaps video-creation software integrated into learning-management systems versus external creative software could be further explored for such time-saving measures.

In contrast, some studies and surveys do show a combination of positive perceptions, engagement and learning outcomes for video integration in online courses. After a Web 2.0 video presentation and interactive video feedback project consisting of a survey of students and staff using reflective video use survey, instructor workshops and a toolkit, Gedera and Zalipour (2018) found positive perceptual and engagement results such as optimistic instructor self-assurance and student scholastic control with such video methods. Anonymous student surveys taken by Rose (2009) revealed that instructor-formulated class videos helped the students understand course content more fully. Borup, West and Thomas (2015) discussed increased retention when videos and lectures were segmented, and found that this was most effective when videos were played mid-lecture. Ramos and Yudko (2008) revealed that weekly instructor-created videos facilitated more visits to the online course shell, which was correlated with improved academic outcomes. In a study of a computer-science course, students appreciated short videos, which positively influenced grades, retention and passing rates and lowered the number of questions on content (Hsin & Cigas 2013). Evolving technology options have the potential to shift student and faculty attitudes about the value and impact of videos; thus they warrant closer inquiry.

Purpose

While there is ample literature documenting the potential educational value of video-based learning in the online classroom, there is a dearth of research comparing students' and faculty members' perceptions of the functionality of instructional videos in relation to the value of Web 2.0 technologies for creating and integrating videos in the online classroom; the importance of integrating video technology into the LMS compared to linking to external video sites; the desire for videos as instruction versus feedback; and the value of videos embedded into course materials compared to videos posted by the instructor as a function of their teaching activities. The purpose of this study is to explore students' and faculty members' perceptions of the value and functionality of videos in the online classroom. Value perception will be investigated in terms of students' and faculty members' subjective judgements about the importance, worth, desirability and/or usefulness of course-integrated videos for instruction and feedback.

Methods

Participants

Participants included online faculty members and students responding to an anonymous online survey. All respondents were from a large university with fully established online and campus programs; the university offers bachelor's, master's and doctoral degrees. Only faculty members and students who indicated "online" as their primary mode of teaching or learning were included in the current study. The online program uses a faculty-created, centralised curriculum. Courses last eight weeks and are organised into weekly, time-limited, asynchronous modules. All modules contain online lecture information (primarily text-based overviews with embedded multimedia supplements), discussion activities and homework assignments. Course development is completed independently of course facilitation: during an active term, faculty members are responsible solely for teaching the established course. Faculty members and students received parallel forms of the same survey adapted in language to be uniquely specific to their role at the institution.

It is important to note that this investigation did not manipulate or control the videos in the online classroom. The survey simply asked students to reflect on the use of videos in the online classes that they had experienced. This approach provides general insights into students' and faculty members' attitudes about video integration in the online classroom, but cannot isolate findings as a

function of video type, focus, quality or other factors. YouTube, a long-standing option for instructor presentations, and Loom, a newer option for video feedback, were mentioned specifically in the survey as representative rather than as video-integration tools generally known to be in use by instructors.

Table 1. Faculty demographics by survey form

	Form A		Form B	
N	223		195	
Full-time	30	13.5%	20	10.3%
Adjunct	193	86.5%	175	89.7%
Online Teaching Experience	6.77 (SD=4.54)		6.98 (SD=4.58)	
Campus Teaching Experience	6.98 (SD=8.16)		8.19 (SD=8.30)	
Academic Discipline				
Business	52	23.3%	42	21.5%
Education	39	17.5%	40	20.5%
Fine Arts	1	.4%	1	.5%
Humanities & Social Sciences	43	19.3%	43	22.1%
Nursing & Health Care	41	18.4%	46	23.6%
Science, Engineering & Technology	4	1.8%	1	.5%
Theology	29	13.0%	16	8.2%
Graduate Studies	14	6.2%	6	3.1%

Faculty members. To prevent survey fatigue for faculty respondents, the original survey was divided into two parts (Form A and Form B) with a unique set of questions sent to each half of the online faculty population. Survey questions targeting the impact of video instructional supplements on the online teaching experience were included in both forms of the survey. Table 1 gives the complete demographic information for the faculty members receiving each form of the survey.

Form A. Respondents to Form A included 227 faculty currently teaching online; four responses were eliminated as the individuals were online doctoral mentors and did not teach typical, asynchronous online courses. The remaining 223 faculty responses were included in the

analysis: 30 (13.5%) from full-time faculty and 193 (86.5%) from adjunct. Faculty members reported an average of 6.77 (SD=4.54) years of experience teaching online.

Form B. Two hundred faculty members teaching online responded to Form B; five responses were eliminated as the respondents were faculty-mentored online doctoral students rather than teaching a typical online course. Analysis of the remaining 195 online faculty indicated that 20 (10.3%) were full-time and 175 (89.7%) were adjunct. Faculty members reported an average of 6.98 (SD=4.58) years of online teaching experience.

Faculty Overall. Combining the participants from Forms A and B, complete faculty survey responses include 418 respondents who were currently teaching online. While 50 respondents (12.0%) were full-time faculty members, the majority (368; 88.0%) classified themselves as adjunct faculty members. The respondents reported a wide range of online teaching experience (0 to 27 years), with a mean of 6.87 years (SD=4.56). In addition to their online teaching experience, respondents also indicated extensive campus-based teaching experience, with a mean of 7.54 years (SD=8.24). The respondents represented a range of academic disciplines: 22.5% business; 18.9% education; .5% fine arts; 20.6% humanities and social sciences; 20.8% nursing and health care; 1.2% science, engineering and technology; 10.8% theology; and 4.5% graduate studies. No information was collected on faculty age, gender or ethnicity.

Students. Student respondents included 2,386 individuals who indicated online learning for their primary mode of education. Degree breakdown indicated 1,067 (44.7%) undergraduates (205 first-year students, 211 second-year, 284 third-year, 367 fourth-year), 927 (38.9%) master's and 392 (16.4%) doctorate. Most students (48.3%) took between six and eight classes per year. Table 2 highlights respondents' typical course load by degree.

Table 2. Typical course load by degree

Course Load (classes per year)	Undergraduate		Master's		Doctorate		Overall	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
1 to 3	161	15.1%	84	9.1%	33	8.5%	278	11.7%
3 to 5	193	18.1%	245	26.5%	99	25.4%	537	22.6%
6 to 8	496	46.6%	423	45.8%	230	59.0%	1149	48.3%
9 to 11	133	12.5%	112	12.1%	15	3.8%	260	10.9%
12 to 14	53	5.0%	43	4.7%	2	.5%	98	4.1%
15 to 17	11	1.0%	3	.3%	1	.3%	15	.6%
18 or more	17	1.6%	14	1.5%	10	2.6%	41	1.7%

The majority of students were in their first two years at the institution (56.0% in the first year; 19.0% in the second year), with experience in the online program (53.6% had taken between one

and eight online classes; 23.3% had taken between nine and 16). Most students (93.0%) had a grade point average above 3.0. Students tended to be non-traditional, with an average age of 43.13 years (undergraduate = 40.67; master's = 43.24; doctorate = 49.56). No information was collected on gender, ethnicity or program of study.

Materials

“Best in Class” survey. As part of the university’s “Best in Class” initiative, an online survey was conducted with all students and faculty. The survey focused on students’ and faculty members’ perceptions regarding generic versus instructor-generated videos, seeking to uncover suggestions for more-effective integration of video in the online classroom. The current study relied primarily on responses to the survey question *“Focusing only on the use of videos as instructional supplements, rate the extent that you agree with each of the following statements.”* Focus was also placed on qualitative responses to the survey question *“Imagine that you could add features or technology to fundamentally change the teaching and learning experience; what would you do, add or modify?”*

Faculty survey. The complete online faculty survey consisted of five demographic questions, one multiple-choice question, five open-ended essay questions and nine rating questions (each containing between five and 15 individual items requiring independent rating) that explored various aspects of online teaching and learning. Due to the length of the survey, it was divided into two forms (Form A and Form B) that each included approximately half of the questions. Demographic questions were included in both forms of the survey (Table 3).

Table 3. Faculty survey demographic questions

Question	Response Options
How would you describe your primary teaching role?	Adjunct Online Instructor; Full-time Online Faculty; Traditional Campus Adjunct Instructor; Full-time Campus Faculty; Dissertation Faculty; Other
With regard to your primary teaching role, in which discipline area do you primarily teach?	Business; Education; Fine Arts; Humanities & Social Sciences; Nursing & Health Care; Science, Engineering & Technology; Theology; Graduate Studies
In which of the following modalities do you currently (within the last year) teach? Select all that apply.	Campus; Online; Dual Enrolment
How many years have you taught face-to-face at the college [tertiary] level?	Open answer
How many years have you taught online at the college [tertiary] level?	Open answer

Different survey questions targeting the impact of video instructional supplements on the online learning experience were included in each form of the faculty survey (Table 5). Participants responded to rating survey items using a five-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree) that included an additional option for “not applicable”.

Student survey. The completed online student survey consisted of eight demographic questions, three open-ended essay questions and nine rating questions (each containing between one and 15 individual items requiring independent rating) that explored various aspects of online teaching and learning. Demographic questions are listed in Table 4; questions targeting the impact of video instructional supplements are listed in Table 5. Participants rated survey items using a five-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree) that included an additional option for “not applicable”.

Table 4. Student survey demographic questions

Question	Response Options
What year are you in school?	Freshman; Sophomore; Junior; Senior; Master's; Doctoral; Other
On average, how many courses do you take a year?	1 to 3; 3 to 5; 6 to 8; 9 to 11; 12 to 14; 15 to 17; 18 or more
How many years have you attended this institution? Please indicate to the nearest whole year.	1; 2; 3; 4; 5; 6; 7; 8; 9; 10 or more
Approximately how many traditional CAMPUS classes have you taken at this institution?	0; 1 to 8; 9 to 16; 17 to 24; 25 to 31; 32 to 39; 40 or more
Approximately how many ONLINE classes have you taken at this institution?	0; 1 to 8; 9 to 16; 17 to 24; 25 to 31; 32 to 39; 40 or more
Approximately how many HYBRID/BLENDED classes have you taken at this institution?	0; 1 to 8; 9 to 16; 17 to 24; 25 to 31; 32 to 39; 40 or more
What is your approximate GPA at this institution?	0 to .9; 1.0 to 1.9; 2.0 to 2.9; 3.0 to 3.9; 4.0
What is your age? Please indicate your answer in numeric form rounding to the nearest whole year.	Open answer

Table 5. Survey questions targeting video instructional supplements

Questions	Student Rating Statements	Faculty Rating Statements
(Faculty Form A; Students) Focusing only on the use of videos as instructional supplements, rate the extent that you agree with each of the following statements:	The use of Web 2.0 technologies (such as YouTube or Loom) is an effective means for me to learn course content.	The use of Web 2.0 technologies (such as YouTube or Loom) is an effective means for me to create instructional videos.
	The use of Web 2.0 video technologies (such as YouTube or Loom) is an effective way for instructors to provide feedback on my assignments.	The use of Web 2.0 video technologies (such as YouTube or Loom) is an effective means for me to provide feedback on student assignments.
	I would watch more instructional videos if they were available directly in the online classroom rather than having to link to another website.	I would create more instructional videos if technology was integrated to create videos directly within the online classroom.
	I would pay more attention to video feedback if it were available directly in the online classroom grade book than if I had to link to another website.	I would provide video feedback for my students if technology was integrated to create videos directly within the online classroom grade book.
	I would like to see more videos integrated into the learning material in the online classroom.	I would like to see online course revisions that include the integration of more videos.
	I would like my instructor to post more videos in the online classroom.	I would utilize an Instructor Resource Manual that included links to videos that I could integrate into my teaching.
(Faculty Form B; Students) Imagine that you could add features or technology to fundamentally change the teaching and learning experience in the online classroom. What would you do, add, or modify to enhance the teaching and learning experience?	Open-ended response	

Procedure

A request to complete the survey was emailed to all faculty members and students from the academic affairs office as a component of a larger institutional-effectiveness initiative. The initial email requesting faculty members' and students' participation in the survey outlined the purpose and scope of the investigation. Those electing to complete the online survey accessed it via a link embedded in the email. There was no incentive for participation, nor were there any consequences for electing not to complete the survey. The survey was administered anonymously via an online survey tool; no personal identifiers or IP address information was collected. The survey access remained open and available for participants for 30 days; there were no reminders or follow-up emails to encourage participation in the survey. Per the survey design, participants could skip questions, move throughout the survey and/or change answers to questions at any time. Survey answers were not finalised until respondents clicked the "submit" button. At the conclusion of the survey, respondents were notified of contact information in the event they had questions or comments, or desired access to the survey results.

Results

Data was analysed to examine the value of Web 2.0 technologies for creating and integrating videos in the online classroom; the importance of integrating video technology into the LMS compared to linking to external video sites; the desire for videos as instruction versus feedback; and the value of videos embedded into course materials compared to videos posted by the instructor as a function of their teaching activities.

Value of Web 2.0 for creating videos

Both faculty members ($\bar{x} = 3.65$) and students ($\bar{x} = 3.68$) were aligned in their belief that Web 2.0 technologies are somewhat effective (on a scale from 1 to 5, with a rating of 4 indicating "agree") for instructors to create videos and for students to learn from them. Likewise, both (faculty members, $\bar{x} = 2.79$; students, $\bar{x} = 2.80$) were less supportive of the value of Web 2.0 technologies for creating assignment feedback.

Importance of integrating versus linking videos in LMS

Based on the questions examining strategies for creating videos, there was little difference between perceptions of the value of Web 2.0 technologies and that of integrating technology into the learning-management system. Faculty members were equally likely to create videos using Web 2.0 technologies ($\bar{x} = 3.65$) and video-creation technologies were integrated into the learning-management system ($\bar{x} = 3.52$). Similarly, students indicated that they were equally likely to watch instructional videos created via Web 2.0 technologies ($\bar{x} = 3.68$) and those created by the instructor directly in the online classroom ($\bar{x} = 3.61$). While student attitudes were not strong on this topic, one student wrote in the open-ended feedback, "It would be very helpful if every piece of learning material includ[ing] videos, streaming, etc....would be in our LMS environment."

An analysis of faculty and student perceptions about the value and role of videos in the online classroom revealed significant differences in attitudes regarding integrating video feedback directly within the online classroom grade book [$F(1, 2586) = 10.305, p = .001$]. Students ($\bar{x} = 3.4132, SD = 1.535$) were more likely than faculty members ($\bar{x} = 3.0648, SD = 1.429$) to agree that they would use video feedback if it were provided within the online classroom grade book. While faculty members were neutral in their agreement to the statement "I would provide video feedback for my students if technology was integrated to create videos directly within the online classroom

grade book”, students were slightly more likely to agree that they would watch video feedback embedded into the online classroom compared to linking to Web 2.0 video feedback.

Attitudes about videos for instruction versus feedback

An examination of perceptions about the use of videos for instruction versus feedback found more support for instructional videos than feedback videos. While students and faculty members tended to agree that Web 2.0 technologies are useful for creating instructional videos ($\bar{x} = 3.68$), they were not as supportive of Web 2.0 technologies for creating feedback videos ($\bar{x} = 2.80$). Echoing this pattern, faculty members’ and students’ endorsement for instructional videos created using technology that was integrated with the learning-management system ($\bar{x} = 3.61$) was higher than their support of feedback videos created using such technology to create feedback videos ($\bar{x} = 3.38$).

An analysis of open-ended comments showed extreme student views on this issue. While appreciation was noted by some students, as indicated by this comment: “I would like to receive more course materials (textbooks), lectures, and feedback through the use of videos or audio since I can work on assignments while also listening to course work. Additionally, I can review audio materials to supplement written materials. I like the idea of feedback and grading in audio and video feedback so long as it links to the assignment documents.” On the other end of the continuum, an increased number of students voiced a dislike for feedback videos; for example, “I specifically detest the instructor feedback via video. Place the comments into the paper and send them to me. Don’t load a video, I hate watching them and avoid them at all cost.”

Value of course-embedded videos versus-teacher posted videos

Recognising that some videos are embedded into course materials as part of online course design and some are posted by the instructor as a function of their teaching activities, it is useful to examine students’ and faculty members’ perceptions of the relative value of each approach for video integration. Both students ($\bar{x} = 3.80$) and faculty members ($\bar{x} = 3.76$) agreed that they would like to see more videos integrated into the course design. Likewise, both endorsed the idea of instructors posting more videos during their online teaching (faculty members, $\bar{x} = 3.99$; students, 3.60).

An analysis of faculty members’ and students’ perceptions about the desire for increased use of videos in the online classroom revealed a significant difference in between the two groups [$F(1, 2583) = 17.600, p = .000$]. Faculty members ($\bar{x} = 3.9908, SD = 1.101$) were more likely than students ($\bar{x} = 3.6035, SD = 1.318$) to endorse integrating instructional videos in the online classroom. It is important to note that students’ and faculty members’ attitudes did not differ in opposite directions; rather, faculty members endorsed the statement more strongly than did students. One faculty member explained, “I think that today’s students are more in tune to video/audio in many cases, than they are to written word. A mixture of both written and audio/video would appeal to a wider group of learning styles.” This view was echoed by a student, who commented, “The videos I have found most helpful were those created by my instructor(s). While this has not been often it has been more helpful than [videos created by] an outsider.”

Table 6 provides mean ratings of function dimensions of video instruction in the online classroom. Table 7 overviews ANOVA results for the comparison of faculty members’ and students’ perceptions for each dimension.

Table 6. Mean ratings of video instruction by students and faculty members

Student Version	Student Rating		Faculty Version	Faculty Rating		Total	
	Mean	SD		Mean	SD	Mean	SD
The use of Web 2.0 technologies (such as YouTube or Loom) is an effective means for me to learn course content.	3.68	1.48	The use of Web 2.0 technologies (such as YouTube or Loom) is an effective means for me to create instructional videos.	3.65	1.33	3.68	1.47
The use of Web 2.0 video technologies (such as YouTube or Loom) is an effective way for instructors to provide feedback on my assignments.	2.80	1.76	The use of Web 2.0 video technologies (such as YouTube or Loom) is an effective means for me to provide feedback on student assignments.	2.79	1.42	2.80	1.73
I would watch more instructional videos if they were available directly in the online classroom rather than having to link to another website.	3.61	1.42	I would create more instructional videos if technology was integrated to create videos directly within the online classroom.	3.52	1.33	3.61	1.42
I would pay more attention to video feedback if it were available directly in the online classroom grade book than if I had to link to another website.	3.41	1.54	I would provide video feedback for my students if technology was integrated to create videos directly within the online classroom grade book.	3.06	1.43	3.38	1.53
I would like to see more videos integrated into the learning material in the online classroom.	3.80	1.27	I would like to see online course revisions that include the integration of more videos.	3.76	1.10	3.79	1.26
I would like my instructor to post more videos in the online classroom.	3.60	1.32	I would utilize an Instructor Resource Manual that included links to videos that I could integrate into my teaching.	3.99	1.10	3.64	1.31

Table 7. Significant differences between students' and faculty members' attitudes on videos in the online classroom

Statement		df	F	p
Student Version	Faculty Version			
The use of Web 2.0 technologies (such as YouTube or Loom) is an effective means for me to learn course content.	The use of Web 2.0 technologies (such as YouTube or Loom) is an effective means for me to create instructional videos.	1, 2595	.095	.758
The use of Web 2.0 video technologies (such as YouTube or Loom) is an effective way for instructors to provide feedback on my assignments.	The use of Web 2.0 video technologies (such as YouTube or Loom) is an effective means for me to provide feedback on student assignments.	1, 2594	.008	.931
I would watch more instructional videos if they were available directly in the online classroom rather than having to link to another website.	I would create more instructional videos if technology was integrated to create videos directly within the online classroom.	1, 2591	.854	.355
I would pay more attention to video feedback if it were available directly in the online classroom grade book than if I had to link to another website.	I would provide video feedback for my students if technology was integrated to create videos directly within the online classroom grade book.	1, 2586	10.305	.001*
I would like to see more videos integrated into the learning material in the online classroom.	I would like to see online course revisions that include the integration of more videos.	1, 2592	.162	.687
I would like my instructor to post more videos in the online classroom.	I would utilize an Instructor Resource Manual that included links to videos that I could integrate into my teaching.	1, 2583	17.600	.000**

*Students rated higher than faculty members

**Faculty members rated higher than students

A content analysis of the students' answers to the open-ended question "Imagine that you could add features or technology to fundamentally change the teaching and learning experience in the online classroom. What would you do, add, or modify to enhance the teaching and learning

experience?” revealed only two themes (increased use of multimedia, 42.8% of responses; enhancements to the learning-management system, 14.2% of responses). Faculty members’ responses to the same question revealed five dominant themes (discussions, 10.43%; enhancements to the learning-management system, 14.11%; student-generated multimedia, 10.43%; video conferencing, 11.66%; and increased use of videos, 27.61%).

Discussion

Faculty members’ perceptions

Faculty members desired more opportunities to interact with their students. Faculty responses indicated a desire for video-based discussions, video-conferencing and student-generated videos. Within this context, faculty members expressed a need for the learning-management system to make the creation and sharing of videos quick and easy; this highlights that strategies to streamline multimedia usage can foster adoption by both faculty members and students. Overall, tertiary instructors believed that students would like more videos (whether created by the instructor or embedded from other sources) and sought strategies to efficiently integrate multimedia into their online teaching.

Students’ perceptions

Overall, students were seeking more interaction, with multiple opportunities to engage with the material. While students valued text-based resources, they also wanted to have options to learn and interact via video and audio. Key to the student recommendations was an awareness of the time factor. Students wanted to have variability in their teaching and learning environment, but they did not want technology for the sake of technology. Rather, they desired multimedia options that allowed them to learn more quickly or be more mobile in their learning activities. Within the context of enhancements to the learning-management system, students indicated a desire for a streamlined classroom, notification technology, plug-ins for multimedia integration and functionality with fewer clicks.

Comparative analysis

Results of our study support Rose’s (2009) research, which revealed a plethora of positive comments related to this form of video. Students reported feeling cared about (e.g. “[She] took the time to make weekly videos”) and comfortable communicating with their professors (e.g. “..I thought my professor was open to more interaction”). Students also appreciated the option to pause videos to take notes, rewatch them, and so on, which is not possible in a ground class (Rose 2009, p. 1). It was clear students craved the personal delivery mode that can be created via instructor-created videos. Students may have preferred video presentations and feedback from their instructor over outside video resources because they may have perceived that such videos could help solidify the instructor’s unique interpretations or weight of assignment objectives. While weekly, brief, personal and interactive videos created by the instructor are advisable, our study underscored how videos or media alone should not replace lecture, discussion, reading and writing as viable vehicles of learning.

Results of this study indicate that instructors’ perceptions about classroom video technology do not always align directly with that of students, and might require modification, especially in terms of more instructor-created videos versus YouTube or general video integration. Faculty members had slightly higher enthusiasm for video integration than did students, but this gap disappeared

when instructors were prompted about their own video creation. Factors involving faculty motivations to use resources could be explored further. It is important to note that 86.5% of the survey respondents were adjunct professors, who do not fully represent the online teaching population. Dougan's (2014) survey noted that while tenured faculty members were less likely to implement YouTube videos in research processes and courses, adjuncts and students were on trend for increased YouTube adoption as a time-saver over library research and course materials alone.

As Young and Norgard (2006, p. 114) highlight, it is important to note that positive perceptions of video usages do not always equate with effectiveness in terms of approach and learning outcomes. Current literature reveals some insights into video-use preferences in online education, yet it is still unclear whether or not the preferences are grounded upon actual student experiences and increased learning outcomes or merely perception-based. For instance, student surveys compiled by Tichavsky et al. (2015) indicated that students' perceptions of online learning were linked to factors unrelated to actual experience. Evaluations were related to things like the ability to self-regulate, instructor presence and even outdated stereotypes such as correspondence education. Such surveys have limits, and are often focused on student self, course and instructor perceptions versus actual learning outcomes. With this in mind, the current study provides a starting point for understanding perceptions about the role of videos in the online classroom, but further research is needed to examine alignment between preferences and outcomes.

Suggestions for future research and best practices

General video integration

There are currently no set standards for video integration into courses, and best practices such as timing, frequency, length and specific content are still under exploration. One video-integration approach is the introductory or bio video as an online course welcome from the instructor. Jones, Naugle and Kolloff (2008) have identified several hurdles to creating teacher presence, and recommend that instructors create an introductory video to form a relationship with their students early on. Reisetter, Lapointe and Korcuska (2007, p. 77) note that instructors' facial expressions and interaction are a missing element from many online courses, and that students prefer online classes with instructor-generated videos. The top five methods to personalise the online classroom, according to Robertson, Steele and Mandernach (2016), include instructors showing their face, varying tone, adding choice, making eye contact and being present. Borup, West and Thomas (2015) illustrated that entertaining videos at the start of a class can motivate learners.

It is important to note that perceptions of the value of course-related videos are likely to vary from culture to culture, as some students prefer closer and face-to-face interaction with instructors than others. Examples might include one-way to two-way recordings, more faculty presence, and so on. This is something the present study did not investigate, so our findings cannot be generalised to all populations. Future studies examining various cultural perceptions of different video modalities is recommended, as there is currently a lack of research in this area.

There remains space for a further investigation into instructor motivation among courses that include support for video creation within the learning platform and/or institution, since this would be more convenient and user-friendly. Future studies might investigate best practices and software for video presentations and feedback, such as students' preferences for the length, tone and presentation of videos, as well as instructor training in such methods. More research is recommended concerning best practice for video integration in combination with traditional text-based delivery. This might include unique ways to create video-integration tools, monitor their use

and communicate with students about their progress to improve student perceptions of video-based learning.

Video feedback on assignments and interactive video methods

Videos' interactivity, usability and approachability are other factors to consider when determining best practices. Negrea (2017) recommends including interactivity, brevity, instant feedback through methods like quizzes and new or otherwise interesting presentation technologies like lightboards instead of slides. Kim et al. (2014a) recommends the following for instructional video design methods: avoid quick transitions, make videos brief, make videos open in one click, add highlight screenshots and interactive links and summarise highlights. They have also developed a research-based and well-received video interactivity platform, LectureScape, that has a searchable timeline of the video script, which acts like a text-based index and bookmark function, and a search feature, which acts like a search engine or website (Kim et al. 2014b). Glance et al. (2013, p. 3) noted that short videos – that is, those not exceeding 10-15 minutes – were the most pedagogically effective in terms of enhancing student attention and improving focus. Moldovan, Ghergulescu and Muntean's (2017) survey of best practices in instructional videos revealed that videos six minutes or less; those that show the professor, use Khan's sketching style, use fast enthusiastic speech, show steps in the context of a process rather than just concepts and use humour and gamification; those videos with direct ties to assignments and to social-media interaction; those that are professionally made; those that are accessible from mobile devices garnered the most interest from student viewers.

There were both positive and less-positive student comments concerning video feedback on assignments, and this discrepancy could be a basis for future exploration. Feedback on assignments through screencast and other resources is a possible way to foster better video-based instruction as well as increase instructor presence online. As discussed, Lee and Thompson (2013) assert that positive responses to such feedback on essays indicate that it functions as both an effective learning tool and an engagement practice. Future studies more closely investigating student perceptions of "effective" instructor-generated video presentations is recommended, since factors such as length, instructor tone and style of presentation are likely at play. Individual student characteristics underpinning perceptions (e.g. age, learning preferences) can also be explored. There remains a need to further unpack specific elements of the videos users find valuable, digging more deeply into their "yes or no" responses. A closer investigation into differences in how adjunct and full-time instructors perceive video-based instruction is also suggested.

New opportunities for interactive video methods may provide a bridge for the gap between highly positive perceptions of course videos in general and mixed perceptions of learning outcomes associated with such videos. Institutions and instructors should regularly investigate student-created videos and video responses to instructor videos as well as other interactive-video options. For example, media like Flipgrid allow students to create their own videos in response to instructor-created video prompts. Such interaction and student demonstrations could possibly increase student acquisition of course objectives as well as continue the favourable instructor presence offered online by faculty-created videos. Also, a survey by Peterson (2018) notes that marketing students appreciated the creativity and increased retention of communication skills involved in creating their own Web 2.0 video responses. In an open courseware survey, Gil, Candelas, García and Jara (2012) demonstrated that the majority of students confirmed that instructor and student video-log responses were helpful to comprehension and could replace lectures. These video logs, along with OpenCourseWare blogs were shown to increase student

grades and knowledge. There are also methods for individualised video feedback in courses that offer both instructor presence and opportunities for an effective, differentiated teaching approach. Thompson and Lee (2012) discuss the increase in instructor presence, clarity of feedback and instructor-student collaboration with such screencast feedback (or, as coined, “veedback”) on written assignments. West, Jay, Armstrong and Borup (2017, p. 468) note that with short, unpolished videos for common learning needs as well as occasional personalised individual or group-project-based feedback videos, instructors can effectively demonstrate work deficits in a personable and yet efficient manner. The same study mentioned that, although it can be positively received, video communication from the instructor should not be used for every type of feedback or interaction online. Other possible practical explorations include new technologies like Playposit, Spiral, Edpuzzle, Screencastify, Commentbubble, Mixbit, Vialogues, Media/Breaker, Toontastic 3D, Telestory, Tooncamera, ShadowPuppet, GreenScreen, StopMotionStudio, Binumi, WeVideo, AndroVid, IMovie, Videolicious, Generator, Animoto, Clips, Flipagram, Touchcast Studio and VidCode (Common Sense Education, 2017). Others include Zoom, Loom, Explain Everything, Adobe Spark, My Simple Show, Canva, Story Bird, Padlet, Tellagami, Moovly (Book Widgits, 2018), Splice, Reel Director, Silent Film Director, Super 8 TM and Vidify (Digital Media in the Classroom, n.d.).

More integration of video software within course platforms may improve instructors’ perceptions and adoption of this type of video-based feedback and other interactive video tools. Similar to the platform used for this survey, most course shells do not have video-creation software included, and this may be why instructors responded neutrally to this option. According to a study by Wang, Doll, Deng, Park and Yang (2013), learning-management systems’ reconfigurability can improve teaching practices and efficiency.

It is apparent that while there are a significant number of students who appreciate instructor-created videos in a course, many instructors are not comfortable creating their own videos. Clearly, not all academics are experts in multimedia use, which is why further refining best video practices is needed. In terms of instructor-created videos, there is a possible lack of video-production skills on the part of the instructor (Andrews 2012) and some reluctance to spend the time required for creating such media, which are challenging hurdles to tackle. Changing deeply held beliefs requires a wide range of strategies such as professional training and development opportunities, collaboration among faculty members and practice sessions (Kim et al. 2013). Universities might consider integrating more video-related training in their budgets, considering the strong link between instructor-created videos and student satisfaction.

While how instruction is perceived is important, the outcomes associated with text or video content are also important. Generally, faculty members and students perceive brief and helpful instructor-created videos as beneficial for some learning needs through concept repetition and instructor presence, which in turn encourage increased engagement in distance instruction. Interactive video presentations positively affect learning outcomes (Zhang, Zhou, Briggs & Nunamaker 2006) and should be considered and communicated as an option for online learning. Supportive measures within the institution are needed to achieve and sustain perspective shifts as well as support the effectiveness of video initiatives.

Conclusion

This large, perception-based survey of classroom experiences concerning video modalities and integration methods can be used as springboard for future explorations of individual tools, techniques or platforms that improve the perception the online classroom. Increasing opportunities

for instructors to create and integrate videos (in a variety of specialised formats) mandate that faculty members' and students' attitudes about the general value of these videos be revisited frequently. Perception of one's learning environment is integral to one's learning experience. While the importance of environment is relevant across all learning modalities (face-to-face, online, hybrid, etc.), the impact of environment may be intensified in the online classroom due to the geographically separate, asynchronous nature of e-learning. While faculty members' perceptions of course-based video technology did not perfectly align with students' perceptions in this survey, there were several similarities. It is clear that both students and faculty members would like more multimedia integrated into the course design, yet only if it adds both learning and engagement value to the course, demonstrating its worth concerning the time invested by both implementer and viewer. With an evolving technical and global economy, it is important to continually investigate the elements of online courses that lead to student satisfaction and learning outcomes. Within the online environment, the interaction of the learning management system, instructional content and supplemental video-based technology must be examined regularly to better understand how to foster student motivation, learning and engagement.

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