FACULTY USES AND PERCEPTIONS OF VIDEO IN HIGHER EDUCATION ONLINE COURSES

By

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ABSTRACT

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This is a study of 100 instructors' use and perceptions of video in online courses they teach. A 60-item anonymous survey was sent to online instructors at a large international university. The survey items asked about the instructors' perceptions of the value of four types of video: instructor-created, third party, student-created, and synchronous video. Instructors were also asked to report any barriers of their use of video and the support for video use provided by the university. The undergraduate and masters courses taught by these instructors included subjects in business, education, arts and sciences, and communications. Analyses of instructors' responses showed that use of video varied widely in overall frequency and by the four types of video used. Types of video use were found to differ significantly across these four major academic units with third party videos reported as the most used video type in online courses and synchronous videos reported as the least used. Third party videos were perceived to have a significantly higher level of pedagogical value for increasing student learning, engagement, and overall course quality, than instructor-created videos. Instructors reported the main perceived barriers to video use were course development time and professional development in video technology. Age and instructor experience were significantly correlated with the use of instructor-created and student-created video

indicating that younger instructors were more likely to use these forms of video. Age was also found to be a predictor of technology use with younger instructors significantly correlated with their positive self-efficacy on using technology. Instructors reported an overall high level of self-efficacy on technological, pedagogical, and content knowledge. Instructors' responses to open-ended reflections provided an opportunity to capture the instructor 'voices' in the context of personal experiences using video in online courses.

The overall conclusion of this study is that in view of the high frequency of video use in online courses, universities need to listen carefully to the voices of instructors in order to provide professional support and training that matches needs and pedagogical goals of instructors. Professional development on the uses of video technology is needed to help instructors effectively integrating video in their online course.

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KEY TO ABBREVIATIONS

CK	Content Knowledge
CLT	Cognitive Load Theory
CMC	Computer Mediated Communications
CMS	Course Management System
DiAL-e	Digital Artifacts for Learner Engagement
F2F	Face-to-face
HTML	Hypertext Markup Language
ICT	Information Communication Technologies
K-12	Kindergarten through Twelfth grade (US education scale)
MAET	Masters of Arts in Educational Technology (degree)
MOOC	Massively Open Online Course
NWP	National Writing Project
OLC	Online Learning Center
PK	Pedagogical Knowledge
TK	Technological Knowledge
TPACK	Technology, Pedagogy, and Content Knowledge
TPK	Technological and Pedagogical Knowledge

CHAPTER 1

INTRODUCTION

Statement of the Problem

Online learning has become an increasingly common educational experience throughout higher education institutions around the world. Over the past decade the landscape of online learning has evolved in parallel with available online Internet technologies. Advancements in personal computing hardware, software, networking, and global Internet communication technologies have allowed for rapid growth and delivery of online learning programs and courses. One such technology, online video, has become increasingly accessible to the average user in online learning environments as well as in the broader domain of Internet communication technology. The Pew Research Center reported that over the past four years the number of adults in the United States that watch or download online videos has grown to 78% (Purcell, 2013). Purcell (2013) also reported that the number of people who upload or post online videos has doubled to 31% in the same four-year period. While this large national survey provides evidence of a continued growth of usage of online video, it does not break the usage of video down into more discrete categories (e.g. educational, entertainment, research, etc.), so it is difficult to identify how online videos are being used. In education, video is used in many forms of instructional models including online and hybrid (or blended) learning, massive open online courses (MOOCs), and flipped classrooms. The aim of the present study was to investigate how videos were being used, and the faculty perception of video use in higher education online courses.

Recent statistics released from popular commercial online video platforms provide a picture of online video use in higher educational settings ("About lynda.com," 2014; Tsur, 2014). Lynda.com is a commercial online video training platform that offers highly produced video training subscriptions to educational institutions, business organizations, and individuals. As of April 2014, Lynda.com offered over 2,500 video courses containing more than 116,000 individual videos. It was further reported that more than 40% of all US colleges and universities have an enterprise level account for faculty, staff, and students providing unlimited access to the entire video catalog ("About lynda.com," 2014).

Kaltura, a provider of an open source online video platform that provides video management and framework solutions for media, enterprise, education industries released a report in 2014 based on the survey "The State of Video in Education". This survey was conducted over three months with more than 550 respondents (Tsur, 2014). The survey indicated that 88% of participants agreed that "Video improves the educational experience and will be a major part of education in the future" (Tsur, 2014, p. 22).

The use of video in education is growing in all areas but the affordances of online video would seem to be especially suited to enhance learning in online courses. Online learning is showing strong continued growth in the United States. Across the United States, higher education institutions are continuing to add and develop online courses, programs, and entire degrees. In 2013 about 7.1 million students took at least one online course, representing one-third of all higher education students in the US (Allen & Seaman, 2013). Allen and Seaman reported

that academic leaders expect that "the majority of all higher education students will be taking at least one online course in five years' time" (p. 5).

The growth of online learning in higher education and the increased use of video in education calls for research at the intersection of online learning and online video. Understanding how videos are being used in online courses and how faculty view the use of different types of videos in their courses may contribute to understanding how video can be used to enhance online learning.

Purpose of the Study

This study investigated faculty use and perceptions of video in fully online courses from a large liberal arts university based in the Midwest with a large international component. The online teaching faculty participating in this study represented both undergraduate and graduate courses from more than 30 online programs and certificates. An exploratory research survey was used to obtain self-reported answers on the types of video used and the perceptions faculty had on how the videos impacted their courses as well as their perceptions of the impact to the student experience. This study took place in the context of an educational institution looking to gain understanding on how video was used in online courses as part of a larger initiative to enhance online learning practices. This study focused on the online courses taught in the 2013-2014 academic year.

Research Literature and Theoretical Framework

Faculty and instructional designers are faced with many design choices when considering the use of video, including the purposes, types of video, and frequency and duration. Decisions about what videos to use in an online course may appear to

be a simple choice, when in reality the decision can be complex, based on many factors such as appropriateness of fit, level of production quality, technical requirements to view, development time of including video into course, to name a few. To determine if videos will be used in an online course the faculty or instructional designer must consider technological issues, pedagogical uses, and how the video is intended to fit within the student experience. Additionally, the evolving technologies and skills required for using video present educators with opportunities and challenges, as new uses for video content are being identified, implemented, and made more widely available. Among the benefits claimed for video are increasing overall experience by assisting learning and skill development, providing vicarious experiences, and nurturing students' motivation (Koumi, 2006). Others have emphasized using videos as supplemental or additional material to create variation in course activities, interaction, and tasks that increase students' intrinsic motivation in the course (Merkt, Weigand, Heier, & Schwan, 2011).

TPACK Framework

The development of the TPACK framework has provided the instructional design and teaching community with a model to represent ways of thinking about the relationship between teaching and technology (Mishra & Koehler, 2006). In the field of educational technology the Technological Pedagogical and Content Knowledge (TPACK) framework has become a commonly used framework to characterize the intersection of knowledge areas needed by instructors to teach effectively with technology (Baran, Chuang, & Thompson, 2011). This model can be applied to online learning to help identify the knowledge that instructors will need

to use technology at the intersection of pedagogical and content knowledge (domain specific) in order to provide the most effective form of teaching with technology. Figure 1 presents an illustration (Koehler, n.d.) that depicts TPACK as the intersection of technological knowledge, pedagogical knowledge, and content knowledge. The intersection of these three components represents the most effective use of technology in learning. In addition to the central intersection of the TPACK model there are three other interactions noted in the model. The non-central intersections can also be used to evaluate the level of effectiveness of teaching with technology if not all three elements are present. The three other interactions are: technological content knowledge (TCK), pedagogical content knowledge (PCK), and technological pedagogical knowledge (TPK).

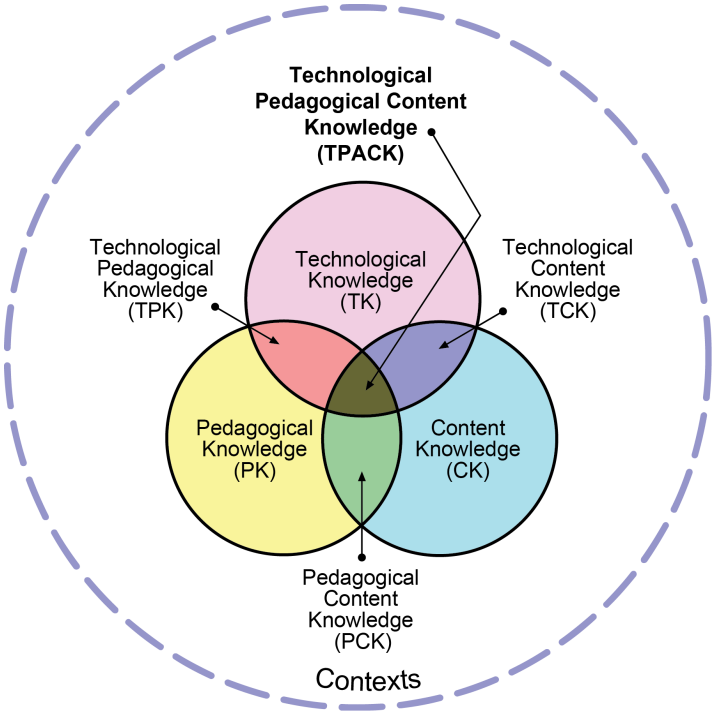

Figure 1. TPACK model reproduced by permission of the publisher, copyright 2012 by tpack.org.

One of the main challenges in applying the TPACK framework is the complexity of the interactions between each of the separate knowledge areas (technological, pedagogical, and content knowledge). The knowledge areas represented in the TPACK model are not suggested to be static, but rather allow variance for every situation in which the model is used to asses the effectiveness of teaching with technology. Technological knowledge is perhaps the most fluid of the three domains. Rapid change in technology implies that technological knowledge may require continuous efforts to maintain compared to pedagogical knowledge, or content knowledge. For example, if an instructor believes they are teaching in the "sweet spot" of the TPACK model and then experience a shift in technology use, due to the introduction of a new technology that has been adopted or imposed the result may lower the instructor's technological knowledge in that context. The disruption of the technological knowledge would then lower the effectiveness of teaching with technology. An example of this type of technology shift in an online learning environment would be the adoption of a new content management system (CMS) that would require instructors to learn new skills or specific technology knowledge on how to use a new web-based platform to deliver their course.

A key issue surrounding the continuing development of TPACK models for teaching with technology in online courses is the clarity of the term *technology* as it is used in the model. It has been proposed that the term technology as it is used in the TPACK model would be more clearly defined by the term Information and Communication Technologies (ICT) (Niess, 2011) as a way of more accurately capturing the intended meaning.

The continued development and adoption of ICT's present challenges to educators who are attempting to integrate contemporary and emerging technology into their courses. Online video is one of these technologies, while not new, the technology behind the creation, sharing, and dissemination of video through online environments has rapidly evolved over the last decade.

As these emerging technologies become higher in demand, instructors are faced with the challenge of learning how to effectively integrate these technologies into their online courses. This presents a unique challenge in incorporating technology in online learning environments, as it requires instructors to develop learning experiences through technology in which they may have little or no experience learning through themselves (Niess, 2011).

Today there are no generally accepted "standards" of technology integration in higher education, though efforts are being made to define 'best practice' (Bowles-Terry, Hensley, & Hinchliffe, 2010; Brunvand, 2010; Fish & Wickersham, 2009). In K-12 education, standards developed by the International Society for Technology in Education ("ISTE Standards," n.d., "ISTE Standards," 2009) have been widely adopted by state boards of education. The lack of widely adopted best practices of technology integration at the higher education level leave individual programs, and instructors to evaluate and incorporate technology as needed in their online course. This allows for many variations of strategies or technologies used.

Online course offerings vary greatly from one course to another, one instructor to another, and one institution to another. Due to the many factors determining how an instructor chooses to use technology in their teaching, it can be

difficult to know what factors influence their decisions. A recent study suggested that evaluating the ICT usage of a preservice teacher is a strong predictor of their TPACK competencies (Kabakci Yurdakul & Coklar, 2014). The researchers found that ICT usage had direct influence on TPACK competencies and the major factors most influenced were ethics, design, and proficiency. While preservice teachers are geared to enter the teaching profession in K-12 environments, the evaluation of their TPACK competencies is analogous to that of higher education faculty that are entering the online teaching environment. This research supports other claims (Baran et al., 2011) that as new information and communication technologies become an increasingly integral part of the educational experience educators should be provided with workshops and other professional development opportunities to better their understanding and knowledge of the available instructional tools.

Research has found that professional development and training has a positive effect on the instructors confidence in their TPACK integration and effective use of technology in their respective learning environments (Baran et al., 2011; Graham et al., 2009; Polly & Brantley-Dias, 2009). While increased training has been shown to be a predictor of better TPACK integration and technology use, this may not be the only factor that determines the amount or style of technology integration. Additional factors influencing instructors' use of technology are explored in Chapter 2.

Compression of Expertise

Video holds the potential for compression of expertise into a shorter time frame. Some have argued that to achieve a level of expertise in a given field one must spend approximately 10,000 hours or ten years of development in that respective field (Ericsson, Prietula, & Cokely, 2007; Gladwell, 2011).

Hoffman has suggested using video in the form of simulations, cultivated experiences, or scenarios to provide exposure to a variety of learning “cases" might lead to learning environments that “design out” the gaps that normally occur between the novice, journeyman, and expert levels of proficiency in a discipline (Hoffman, 2014, p. 168). Using video may also have significant benefits when employed to promote accelerated comprehension of complex domains or subjects. Incorporating video into hypermedia environments that enables instructors to use methods of selection and arrangement of cases to promote deep learning, ecological approaches to interconnecting themes, search capabilities to select and queue different combinations of video, and allow attention to deeper levels of understanding. (Palincsar et al., 2007, p. 449).

Organization of Chapters

Chapter 1 (current chapter) provides an overview of the theoretical framework and pedagogical implications of using technology to enhance online learning. This chapter also identifies the purpose of this study on the uses and perceptions of video in online courses. Chapter 2 provides a literature review on the effects of video in online learning environments and ends with the statement of the research questions. Chapter 3 provides a detailed description of the research

methodology used in this study. Chapter 4 provides the quantitative results and analysis from the survey instrument. Chapter 5 provides a detailed discussion of the results for each of the research questions, and examines the theoretical, pedagogical, and practical implications. The limitations of the study are discussed in this final chapter.

CHAPTER 2

LITERATURE REVIEW

This chapter reviews research literature on theories and studies that provide support for the multiple ways use of video may enhance learning in online courses. Among these ways are pedagogical uses, cognitive load, instructor presence, and instructor beliefs of teaching and learning. This chapter also reviews research literature on the predictors of technology use such as age and experience, and identifying barriers to use. Following this section, this chapter examines research literature on the aspects of video production towards a model of best practices and the effect on student engagement. This chapter ends with a detailed explanation of the research questions.

Pedagogical Uses of Video

The use of video in education is not new and as the technology and variety of video resources become increasingly easy to access, more educators are using video. Video in online course environments has been shown to be beneficial by providing multiple perspectives, points of view, and various calls to action or discussion prompts for students (Brunvand, 2010; Verleur, Heuvelman, & Verhagen, 2011). Using video as a supplement provides the instructor the opportunity to provide differentiation of course material to appeal to multiple learning styles of the course participants rather than limiting the course to a single form of content (e.g. text only). Using video to create variation of tasks and assignments has been shown to increase student motivation in the course (Pintrich, 2003). To assist in the development of learning experiences using video the Digital Artefacts for Learner

Engagement Framework (DiAL-e) was developed to support educators incorporating media rich elements into their courses (Burden & Atkinson, 2008). The availability and knowledge of applicable frameworks for incorporating videos varies among online faculty or instructional designers. In the process of course development faculty and instructional designers have a multitude of online video sources to consider when trying deciding the best use of video to enhance their online courses.

Research has shown positive effects of using online videos for both learning outcomes and course quality satisfaction. For example, in a study using online videos to show students what it's like to work in and operate the Large Hadron Super Collider in CERN without the need to visit Geneva Switzerland, researchers found increased learning outcomes and course satisfaction (Zhang, Zhou, Briggs, & Nunamaker, 2006).

Young and Norgard (2006) reported that student perceptions of quality satisfaction of online courses are important to institutions and faculty that are developing online courses and programs. So while course satisfaction would not be a metric by which you could determine if students learn "better" with video, we can measure whether or not students feel the use of online video increase their satisfaction of the course. If students have increased satisfaction of the quality of online courses that utilize video they may be more likely to promote courses taken or continue to take more online courses that likewise use online video.

Different Types of Video Serve Different Pedagogical Purposes

There are many types of video used in online courses. For the purpose of this study, videos were coded into four categories: instructor-created video, third-party created video, student-created video, and synchronous (live) video. The pedagogical value of these four types of video may vary by type. For example, instructor-created videos may be more effective at increasing the level of social presence of instructors who create videos personally introducing themselves to students or providing personal commentary on course content. Increased instructor presence has been shown to have positive effects on student motivation and course satisfaction (Borup, West, & Graham, 2012; Swan, 2001). Instructor-created videos can take other forms, including presentation of content and assignments, recorded lectures and presentations, as well as comments or feedback.

Third-party videos can provide students with a wide variety of content, including academic content, other scholarly viewpoints, and much more, far beyond what an individual instructor could possibly create. Online video sources such as YouTube and Vimeo are now publishing "years" worth of video content every day. Developing an online class today means that instructors can choose from videos that range from amateur to expertly produced videos on nearly all topics. One consideration with the use of video platforms such as YouTube is curating reliable sources that fit within the curriculum of the course. There are also online video professional services that are offering carefully selected videos by category, topic, or expertise. Educational institutions can subscribe to professional online video learning resources like Atomic Learning, Kahn Academy, and Lynda.com to name a

few, that offer professionally produced educational videos. A recent report released by Atomic Learning (2014) provided evidence that the use of online video tutorials in a treatment groups had significant skill development and growth over the control groups (SEG Measurement, 2014).

Student-created videos are a third category of online video use. Student-created videos have several potential benefits for learning. Such videos can provide for extended learning opportunities outside the classroom and can provide students with a chance to bring in outside perspectives and or forms of expression. Having students create videos can promote more active learning, increase student engagement, and contribute to the students' skills in creating video (Greene & Crespi, 2012).

Synchronous videos are the fourth category of online video use. Synchronous video use can take several forms, including live lectures or demonstrations, office hours, class discussions, or as a platform for students to communicate on group projects. Synchronous video could be used in an online course as scheduled communication in the course or serve as an "as needed" basis to allow for communication between two or more members of the online course. These various uses of synchronous video have the potential for increasing instructor presence, as well as social presence in the course, and increase student engagement in the course.

Cognitive Load Theory

Several lines of research have suggested video might have pedagogical value in learning. Among these benefits of video are the uses of video to reduce learners'

cognitive load in an online course environment. Cognitive load theory generally predicts that learning best happens when conditions align with human biological cognitive architectures that do not exceed the learner's working memory capabilities and when instructional design is based on our knowledge of the human cognitive structure (Sweller, Ayres, & Kalyuga, 2011). This study does not focus on measuring the cognitive load in any form, but relies on the previous research literature that identifies video as one medium that can be used to reduce cognitive load in learning environments. Using cognitive load theory in the practice of online course design, the use of multimedia (such as online video) can be used to reduce the amount of cognitive overload on the learners by working to eliminate split attention, redundancy, and transiency (Kalyuga, 2012).

Knowledge of the human cognitive architecture can be used by instructional designers and teaching faculty to develop online courses that utilize video in a complementary way that works to enhance learning by reducing cognitive load on the student. Incorporating the instructional design principles of cognitive load theory (Kalyuga, 2012; Sweller et al., 2011) video can be used to avoid issues of split attention where information is separated over "distance" either on screen, or through virtual distance in the case of hypertext as it allows for combinations of visual and auditory information to be processed by the learner in the same time and space. However, if video is incorporated as an additional component it may unintentionally increase cognitive load by increasing split attention among the content or by introducing extraneous load introduced by the software needed to access the content even if it does not reduce student learning (Hollender, Hofmann,

Deneke, & Schmitz, 2010; Homer, Plass, & Blake, 2008; Tempelman-Kluit, 2006). Instructional course design can address issues of cognitive overload by ensuring videos are used in effective modes of content delivery, and employ commonly used video platforms to reduce extraneous load potentially introduced by the online video interface. Video also has the ability to reduce transiency by allowing the learner to revisit the information as often as needed to increase retention of complex information. Research on video based learning has shown positive results from using embedded videos based on cognitive load theory on student learning (Noor, Aini, & Hamizan, 2014).

Social Presence of Instructor

Social presence as originally defined by the social presence theory (Short, Williams, & Christie, 1976) is the degree of salience or "realness" of a person perceived by another person communicating through a technology medium, and the associated "realness" of that interaction. In a 2002 publication social presence was redefined in the context of online learning as "the degree of feeling, perception, and reaction to another intellectual entity in the CMC environment" (Tu & McIssac, 2002, p. 146). By using online video, instructors and instructional designers can plan for and arrange for purposeful interaction through video as a medium by students throughout the course. Further, online video platforms can also provide opportunities for spontaneous synchronous online video communications through content management systems or online video platforms such as Google Hangouts or Skype. Leveraging online video to increase the social presence felt in an online course supports the research findings that report course satisfaction is related to

the level of social presence in a course (Choi & Johnson, 2005; Richardson & Swan, 2003; Rose, 2009).

There are many ways in which online video can be used to increase the amount of social presence in a course. While synchronous video may be an easy format to think about, asynchronous videos can be effective as well. Given the nature of online courses, synchronous online video can be logistically difficult to arrange and perhaps time prohibitive on both students and the instructor. For many online courses, it would still be possible to create and post asynchronous videos by the instructor to communicate with the course either formerly or informally in the way of course announcements, lectures, or feedback. A recent study from 2012 provides evidence to support this claim by stating that use of asynchronous video communications can increase the instructor social presence in a course (Borup et al., 2012).

Predictors of Technology Use

Given the general understanding that professional development or skill development in technology is something beneficial to all active instructors, it therefore becomes important to identify areas or issues that have been identified in the existing literature on the various factors that predict the use of technology. By the very definition of online learning, there is in an implicit understanding that instructors will be required to have a proficient understanding of Internet-based tools and communication medium.

Instructor Beliefs of Teaching and Learning

Current literature on teacher beliefs and technology use indicate a strong correlation between how teachers feel about knowledge learning, teaching practices, and the role of technology integration (Kim, Kim, Lee, Spector, & DeMeester, 2013; Russell, Bebell, O'Dwyer, & O'Connor, 2003). Simply put, if instructors feel a particular technology is a beneficial component to the learning and teaching experience then they will be more likely to integrate it into their course than instructors who believe otherwise. It has been suggested that in order to change instructor beliefs the organization can try various strategies such as professional development, peer collaboration, observations, and practice environments to try and advocate for more technology integration. In response to these strategies it is cautioned that fundamental changes in instructor beliefs about use of technology does not happen quickly and for any sustained growth and positive change to occur the organization will need to provide incremental and consistent support (Kim et al., 2013). In addition to the instructors' beliefs on learning, teaching, and technology, the issue of institutional responsibility of technology training has also been raised. In a survey of higher education faculty technology literacy and training it was reported that the majority believed it was the university's responsibility to train faculty on technologies that will enhance learning compared to the responsibility to be on the individual instructor (Georgina & Olson, 2008).

Age and Experience

It is a common belief today that younger generations will use technology more often and with a more seamless integration into their everyday lives both personally and professionally than those who are older. When it comes to integrating technology in education we can see evidence to support this idea, but there are also some claims that it might not be as simple as it sounds. A recent study by the National Writing Project (NWP) College Board, and Pew Research Center points to evidence from their survey that there are differences in technology use between younger and older teachers. Specifically, the survey states "Teachers under age 35 are more likely than teachers age 55 and older to describe themselves as "very confident" when it comes to using new digital technologies" (Purcell, Heaps, Buchanan, & Friedrich, 2013, p. 5). They also report findings that teachers under the age of 35 have their students develop work through online technologies, contribute to online discussions or collaborations more than their colleagues who are older than 55 years old. Further, younger teachers were also more likely to draw on other colleagues for ideas on technology integration.

Another study compared the technology use of teachers based on their years of experience as an educator. The results of this study concluded that teachers with five years or less of experience are significantly more confident using technology than those who have been teaching between six and 15 years, and those who have been teaching for more than 15 years (Russell et al., 2003). An interesting find within this study was that although newer teachers were more confident with technology and used it more often for professional applications this same group also

had stronger feelings of the negative impact of computers on students than those who had been teaching for more than five years. One explanation proposed by the researchers was that given the complexity of starting a new teaching position other factors such as behavior management, curriculum development, adapting to institutional culture to name a few, take precedence over exploring how technology can be used to enhance learning. Although this study focuses on K-12 teachers it is not a stretch to envision the same level of adjustment for new faculty or instructors in higher education.

Looking even more specifically at online teaching and learning, there may be an experiential learning curve on integrating technology such as video technologies in online courses given the level of experience an instructor has. If an instructor is presented with the task of teaching online for the first time their years of experience teaching in face-to-face courses may also predict the instructors openness on technology integration.

Barriers to Use

Use of videos in an online course requires time, planning, and various levels of skill and knowledge on how to use, create, and share online videos. Using third party videos requires understanding of how and when to present the right videos in the correct online learning environment. Online teaching can be described as a complex task that requires commitment from faculty and instructional designers and can be time consuming and demanding (Bolliger & Wasilik, 2009), often requiring different levels of commitment than traditional face-to-face courses. Bolliger and Wasilik (2009) found that instructor satisfaction was significant to the

development of online courses and if faculty doesn't have the resources they need (both tangible and intangible) then the quality of those courses can decline.

Self-efficacy also plays a role in the use of online technologies such as video in online courses. A study on technological, pedagogical, and content knowledge (TPACK) and teacher self-efficacy provided strong evidence to suggest that an instructors level of self-efficacy had a significant impact on their effective and innovative use of technology in their classroom (Abbitt, 2011). The relationship between higher levels of online technology self-efficacy has been shown to increase the likelihood that higher education faculty will implement and use such technologies in their courses (Buchanan, Sainter, & Saunders, 2013; Kagima & Hausafus, 2001). In the case of video, research has shown that using instructional videos can increase user knowledge (Woodworth, Chen, Horn, & Aziz, 2014) however there are many factors beyond self-efficacy in the adoption and use of video such as the structural (logistical) limitations and the perceived usefulness (Buchanan et al., 2013). If instructors do not feel they have adequate skills in using that technology, it would support their reluctance to use or implement it in their own classroom.

Toward Best Practice for Using Video in Online Learning

Video is a common form of educational tool used in online learning environments and over the last several years the ability to create and share online videos has become increasingly accessible. In today's online course environments there is a wide variety of types of videos created, and a wide array of production value. As a result of the ease in which an individual can create and share their

videos it is becoming increasingly important to study the variety of video styles and production values to create a set of "best practices" for online instructional video development.

Length and Types of Video

In a recent (2014) empirical study of various videos used in a selection of Massive Open Online Courses (MOOCs) the researchers were able to analyze student engagement from a combined 6.9 million video viewing sessions. The researchers were able to categorize four main video formats; classroom lecture, "talking head" of instructor at a desk, digital tablet drawing "Khan-style", and PowerPoint slide recordings. From these categories they were able to compare the type of video with the student engagement defined as the likelihood that the students would engage in reflection questions or another form of course interaction within 30 minutes of completing the video. Their findings of the study state that shorter video videos are more engaging (specifically those between 0-3 minutes in length), videos that contain a mixture of content and a "talking head" are more engaging, "Khan-style tablet drawings are more engaging than PowerPoint videos, instructors who speak more quickly and with high energy are more engaging, and that high production value does not mean the video will be more engaging (Guo, Kim, & Rubin, 2014).

Video Production

Along with their findings the researchers also published video production recommendations to assist faculty and instructional designers on how to make the most engaging videos possible. Their top recommendations were to invest in pre-production planning of the videos to try and condense video into shorter segments

(less than 6 minutes), invest in post-production editing to combine video of instructor with other "demo" video, and to try to film in informal settings (Guo et al., 2014, p. 2). These findings are also supported by other university video "best practices" published on various faculty teaching and learning resource pages that suggest videos be shorter (3 – 5 minutes), and be broken into smaller chunks ("Best Practices, Video," 2014, "Video Best Practices: The Center for Teaching and Learning UNC Charlotte," 2014). With new research being published specifically investigating video production there is hope that an industry "best practices" for online course video will emerge and benefit all faculty and instructional designers as they begin or continue to develop new videos.

Need for the Current Study

This study focused on investigating the current faculty use and perceptions of video in online courses. This exploratory research study provided valuable institutional information on how the use of videos in online courses compared to existing literature and identified areas in which video was being used to enhance learning outcomes and potential barriers for faculty video use. With continued increases in online learning and online course offerings this study aimed to collect and analyze data on how videos were being used to enhance the online learning experience and how instructors felt about the value of incorporating video in their online course. This study focused on the research questions formulated below. Understanding the use and faculty perceptions of online video can inform higher education institutions on how faculty feel about the use of video and how I they feel it enhanced online learning.

Research Questions

This exploratory cross-sectional research survey investigated the following research questions:

1. How does the frequency and type of video (instructor-created, third-party created, student-created, and synchronous) use vary across different online courses?
2. How do instructors perceive the pedagogical value of different types of video (instructor-created, third-party created) in their online course?
3. How do instructors perceive the effect of online video on student engagement in their course?
4. What are the key factors influencing an instructor's decision to create videos for their online course?
    a. What barriers to video use do instructors report?
    b. How does institutional support influence instructors' creation of online video?
5. How do instructor age, experience and subject domain relate to video use in their online course?

CHAPTER 3

METHODS

Research Design

An anonymous exploratory cross-sectional research survey was used in this study. A survey instrument was designed, drawing on previous studies, and used to collect self-reported data from a purposive sample of online instructors from one university. The survey used was facilitated through a secure online survey platform and all of the participants in the study were self-selected from respondents to the invitation sent via electronic mail.

Sampling

The sample for this cross-sectional study was comprised of a single stage sampling procedure to conduct a purposive sample of online course instructors from the 2013-2014 academic year. The sample for this study was drawn from the aggregate population of 448 online instructors offering 1,855 cumulative online courses from a large private international liberal arts university based in the United States Midwest region. The full email address list of online instructors was provided by the university's Online Learning Center that facilitates online courses for the university. Using the complete list of online instructors from 2013 – 2014 each instructor was sent an email invitation to participate in the anonymous survey through the survey distribution tools available from Qualtrics online survey.

The desired sample size for this study was based on the Table for Determining Minimum Returned Sample Size for a Given Population Size for Continuous and Categorical Data (Barlett, Kotrlik, & Higgins, 2001, p. 48). Given the

population of 448 instructors and selecting a commonly accepted alpha level of .05 and three percent (.03) margin of error the table suggests the minimum sample size based on the survey instrument and use of continuous data to be 96 participants.

Participants

Participants of this study consisted of self-selected respondents from the aggregate population of 448 online instructors from. The sample (n=100) consisted of both fulltime instructors (12.1%) and adjunct instructors (87.9%) representing predominately graduate instructors (83%) as compared to 17% undergraduate instructors. In this study there were 58 males (59.2%), 40 females (40.8%) with an average age of M_{age}=56.3 years old.

Study Context

This study conducted research at a private nonprofit international liberal arts university with its main campus located in the Midwest of the United States and additional campus locations around the world including North America, Europe, and Asia. The university is classified as a large private not-for-profit four-year university with an enrollment profile of primarily graduate students (The Carnegie Classifications of Institutions of Higher Education, 2010). The university is focused on developing and maintaining a global community with a total student population of 22,000 representing 50 countries from around the world. The university has a strong online educational presence through its Online Learning Center and hosts 25 fully online graduate degrees and eight fully online undergraduate degrees. The Online Learning Center supports and manages all online courses centrally from the

main campus. Students enrolled in online courses include a global student population representing international campuses from Europe, Africa, and Asia.

During the 2013-2014 academic year the Online Learning Center offered 1,855 total online courses from 448 instructors with a total enrollment of 20,975 students. The university is committed to the continuing development of online courses and programs. Research such as the present study may have direct application in efforts on improving quality and satisfaction of course development and student satisfaction with the courses. The aim of this study was to investigate the faculty uses and perceptions of video in online courses as part of a larger initiative to understand how faculty feel about integrating video technology in their online courses. This study provides a snapshot of faculty use of technology in their online courses that can be used to inform university administrators and major academic units on the directions of future professional development for online instructors.

Procedures

The anonymous online survey was distributed electronically via email to 448 online instructors. The responses were collected by the online survey instrument and exported in SPSS format. Analyses of the responses are reported in Chapter 4.

Survey Instrument

The survey instrument consisted of multiple choice, five-point Likert scale, and open-ended reflection questions (see Appendix A). The survey included original questions directly related to the research questions and questions adapted from previous research surveys (Schmidt et al., 2009). The survey was created using a

commercial tool, Qualtrics, for survey design and administration. The university also provided the researcher with descriptive data on the total number of online courses, instructors, enrolled students, and departments represented during the same 2013-2014 academic year.

Prior to distribution to online faculty this survey was piloted for two weeks by a purposive group of volunteer participants. The survey pilot was valuable in testing out the newly created survey to identify questions and definitions that needed clarification or revisions before the official launch of the survey.

The survey instrument consisted of six sections, including one special branched section that was only visible to respondents that used instructor-created video. Each section was designed to collect specific information on the uses and perceptions of video in online courses. Instructors were asked to choose one online course (in case they had taught more) to use as their focus throughout the survey. The first section of the survey collected information on teaching experience and demographic information from the participants including which course they taught, if they taught face-to-face courses, their level of education, and their faculty appointment status. The second section collected data on the types of videos used in online courses reported by the instructors. This section focused on the four categories of video (instructor-created, third party, student-created, and synchronous) and the frequency in which they were used.

The survey section on types of video used included the definitions of each of the four categories of video as identified by this study. Instructor-created video was defined as videos created by (or of) the instructor of the course (e.g. self recordings,

recorded lectures, interviews, screencasts/demonstrations, etc.). Third party video was defined as videos created by individuals or organizations outside of the course (e.g. TED talks, Lynda.com, Atomic Learning, music videos, Hollywood movies, television shows, etc.). Student-created video was described as videos created by the students of the course (e.g. self recording, recorded skits, interviews, screencasts, etc.). Synchronous video was described as videos that require real-time interactions between the faculty and one or more students (e.g. Skype chats, Google Hangout, Webinar events, etc.).

The third section focusing on how videos were used asked respondents to indicate the purpose of the video use in their course through multiple choice and Likert scale questions. The fourth section focused on the feeling and perceptions of faculty on the use of video on the pedagogical value and student engagement. This section of the survey specifically asked instructors to rate how they felt about instructor-created, third party, and synchronous video increasing pedagogical aspects of the course and increasing student engagement.

The fifth section was focused on the self-efficacy of video technology and TPACK. This section utilized the adapted TPACK self-efficacy Likert scales from Schmidt et al. (2009). The sixth and final section of the survey was the branched logic section focused on instructor-created video. This section of the survey was only visible to respondents that indicated they used instructor-created video in the second section on types of video used. This branched section collected data on the various aspects of video production, planning process, and university support the instructors experienced when creating their own videos. In addition to the multiple

choice and Likert scale questions the survey also contained four open-ended reflection questions intended to give instructors a chance to identify any additional aspects of using video they felt was important.

Data Collection

This exploratory research study used a secure online survey instrument to collect information on the faculty uses and perceptions of video in online courses from a sample of online instructors. The anonymous survey instrument was sent to each instructor via electronic mail including the rationale of the survey, instructions, consent form, and all relevant contact information for the study and the office of institutional research. The online survey was open for three weeks, with two subsequent survey reminders sent by electronic mail in week two and three of the study to participants.

Upon the completion of the three-week open period of the survey, the data were exported as an SPSS file, which is maintained in a password protected file location. Additionally, all open-ended reflection questions from completed responses were collected and analyzed to provide contextual information to the survey respondents' feelings on the use of video in online courses. The opened-ended reflection responses can be seen in full in Appendix B.

Data Analysis

The data recorded from the survey were analyzed using a variety of statistical analyses through SPSS software. The following section lists the statistical analyses used based on the research question.

To analyze the data for research question one, a frequency analysis was used to identify the descriptive data on the type and frequency of video usage across the major academic units. Pearson correlation analyses were also used to compare the frequency of video use and video requirement. A repeated measures ANOVA analysis was used to analyze how use of video types varied between major academic units.

To analyze data for research question two and three, a frequency analysis was used to identify descriptive data on the mean values of the Likert scales on pedagogical value of instructor-created, third party video. To test for mean differences in the perceived pedagogical value of instructor-created video and third party video a one-sample t-test was used to identify any significant differences. A regression analysis was used to test for significance between online teaching experience and the composite measure of video use.

For research question four, a frequency analysis was used to identify descriptive data on all survey questions related to barriers and resources identified by instructors. Frequency descriptives were used to report the mean values of the Likert scales on course development resources provided by the university.

To analyze data for research question five, a frequency analysis was used to identify descriptive data on video type, frequency, and mean scores from Likert scales on self-efficacy. Multiple regression ANOVA analyses were used to compare instructor age and experience with video type. Pearson correlations were used to test for significant relationships between frequency of video use, instructor age and experience, and self-efficacy of TPACK and video technology.

CHAPTER 4

RESULTS

In total, the online survey received 100 completed responses after 16 incomplete and erroneous responses were removed from the data set. Two of the responses were removed since they indicated they did not wish to participate, and the other 14 incomplete responses were removed for failing to complete the survey beyond the first section. After accounting for the incomplete responses the final response rate for the online survey was 22.3% (100/448) which was lower than anticipated but sufficient to surpass the minimum sample size needed to generalize findings back to the population of online instructors. The survey results for the 100 completed responses contain missing data on individual items throughout the survey. Not all 100 participants answered every survey item. As a result of missing data the following results in this chapter are reported using the valid percentage indicated by SPSS. While the response rate is lower than desired it met the threshold of the minimum desired sample size of 96 based on the Table for Determining Minimum Returned Sample Size for a Given Population Size for Continuous and Categorical Data (Barlett et al., 2001, p. 48). Due to the anonymous delivery of survey link via email, it was not possible to track which email address received the message.

Sample Teaching Background

The total number of respondents (*n*=100) who completed the online survey represents 22.3% of the total population of online instructors that taught during the 2013-2014 academic year. In the analyses that follow the term "instructor" is used

to include both fulltime faculty and adjunct instructors, as there was no analyses done to compare the two groups.

Teaching Experience and Level

Of the participants who responded 83% (*n*=83) taught an online graduate course compared to 17% (*n*=17) that taught an undergraduate course, which is consistent with the university's enrollment profile consisting of primarily graduate students. The responses also reflected the university's instructor profile, with 87.9% (*n*=87) of respondents teaching as adjunct instructors and 12.1% (*n*=12) as fulltime instructors. The degree levels of the teaching faculty are comprised of 52.5% (*n*=52) master's degree, and 43.4% (43) doctoral degrees, and 1% (*n*=1) bachelor's degree. A frequency analysis of participant showed that the average experience (in years) of higher education teaching was M_{years}=18 years and that online higher educational teaching was M_{years}=8.7 years and the average number of online courses taught at this university was $M_{courses}$=21.9 as seen in Table 1.

Table 1

Descriptive Data on Teaching Experience

		Years of Higher ED Teaching Experience	Online Higher ED Teaching Experience	Number of Online Courses Taught for University.
N	Valid	98	99	97
	Missing	2	1	3
Mean		18.03	8.73	21.86
Median		15.00	8.00	15.00
Mode		15	5	10
Std. Deviation		9.886	4.725	18.729
Minimum		3	1	1
Maximum		50	20	99

A Pearson correlation analysis indicated that the age of respondents was significantly related to their level of experience. The data indicated that instructor age was significantly related to years of higher education teaching experience with a correlation of r=.55, p<.001 and to years of online teaching experience r=.38, p<.001. The correlation analysis also indicated that age was also has a significant positive relationship with the number of online courses taught r=.23, p=.005. The scatter plot (Figure 2) charting age versus courses taught and online teaching experience further supports these correlations.

Figure 2. Instructor age vs. number of courses taught.

Course Subjects Taught

A frequency analysis of the course codes taught indicated that human resource management consisted of 12.2% (*n*=12), educational technology consisted of 10.2% (*n*=10), management consisted of 9.2% (*n*=9), procurement, human resources development and business each consisted of 7.1% (*n*=7), and media communications consisted of 6.1% (*n*=6) as the most frequent course subjects. The course codes (figure 3) represent a total of 28 different course subjects represented by the sample.

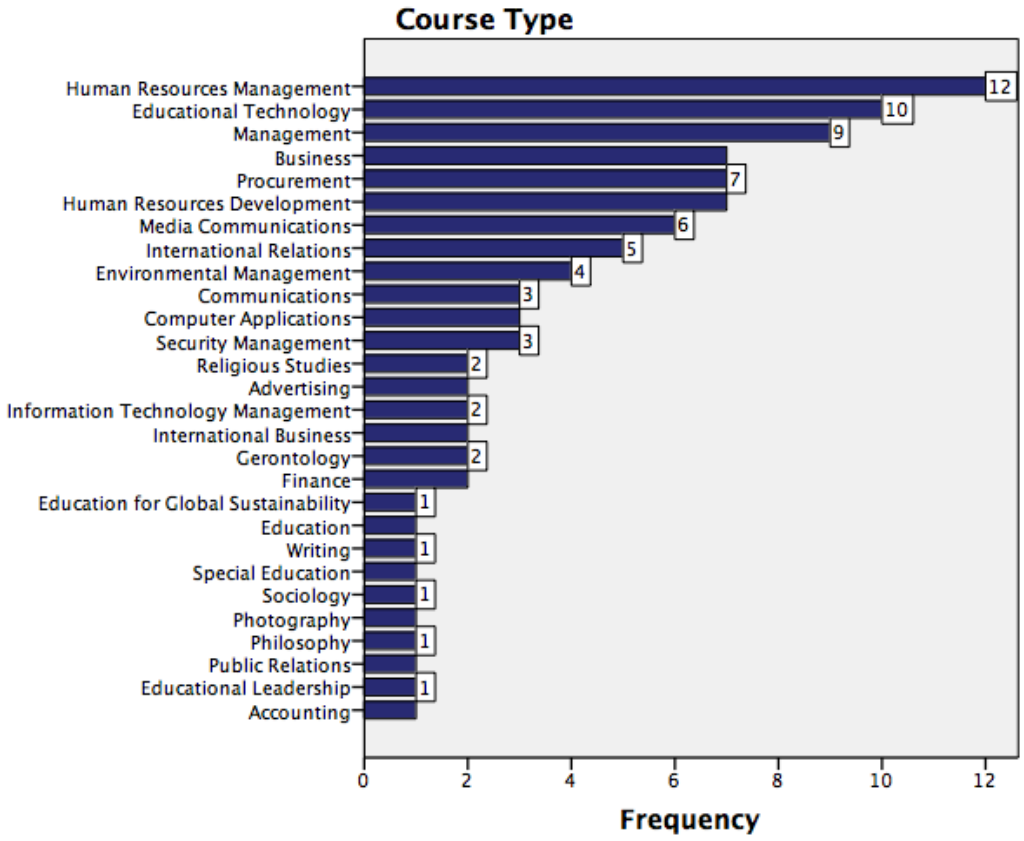

Figure 3. Frequency Analysis of Course Type by Subject Area.

Categorizing the course codes by subject into their respective College or School from the university (Figure 4), the distribution of online course codes indicated that the School of Business consisted of 56.1% (*n*=55) of online courses, the School of Education consisted of 14.3% (*n*=14), the School of Communications consisted of 13.3% (*n*=13), and the College of Arts & Sciences consisted of 16.3% (*n*=16) of online courses.

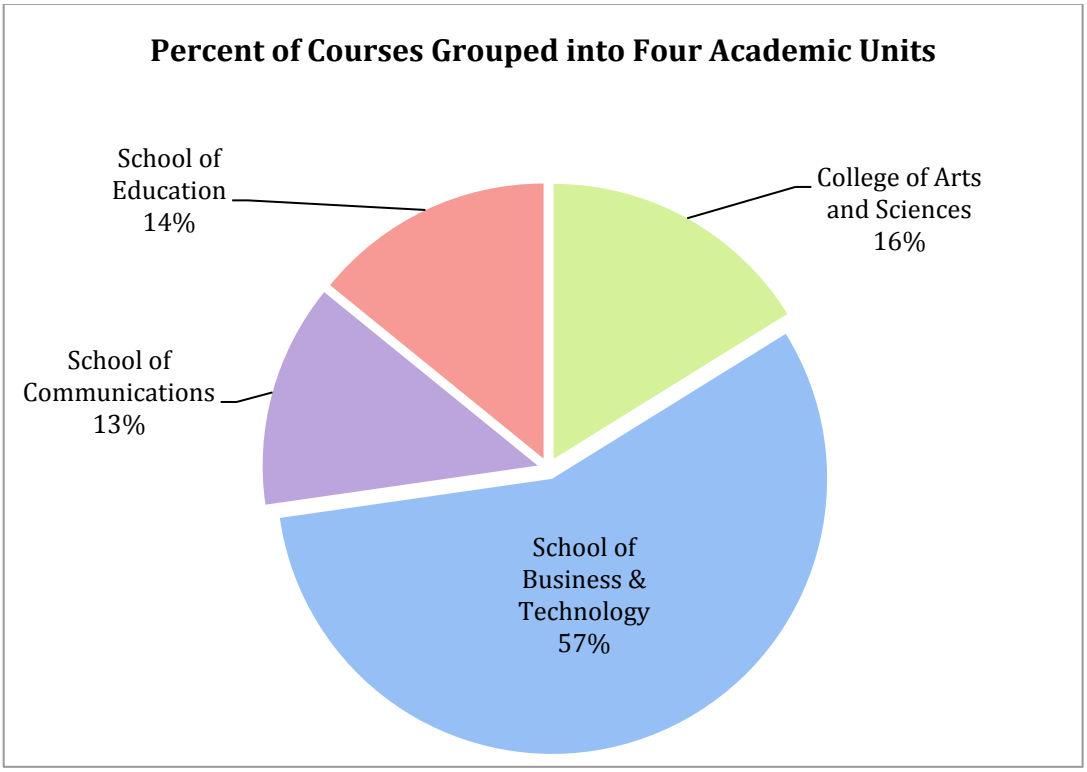

Figure 4. Percent of courses grouped into four academic units.

Distance of Instructors from Main Campus

The mean distance from the main campus was reported as 771 miles (*SD* = 1402) with a minimum distance of 0.25 miles and a maximum distance of 8,000 miles. Instructors were also asked about any concurrent face-to-face teaching

opportunities at local university campuses during the 2013-2014 academic year in which they were teaching online. A frequency analysis (Figure 5) was conducted on the types of campuses located around the world. The frequency analysis indicated that 30.1% (*n*=28) taught face-to-face courses at the main campus during the same time they taught online, 22.6% (*n*=21) taught at a metropolitan campus, 23.7% (*n*=22) taught at a military campus 3.2% (*n*=3) taught at a European international campus, and 2.2% (*n*=2) taught at an Asian international campus. It was also indicated that 29% (*n*=27) did not teach any face-to-face courses during the time they were teaching online.

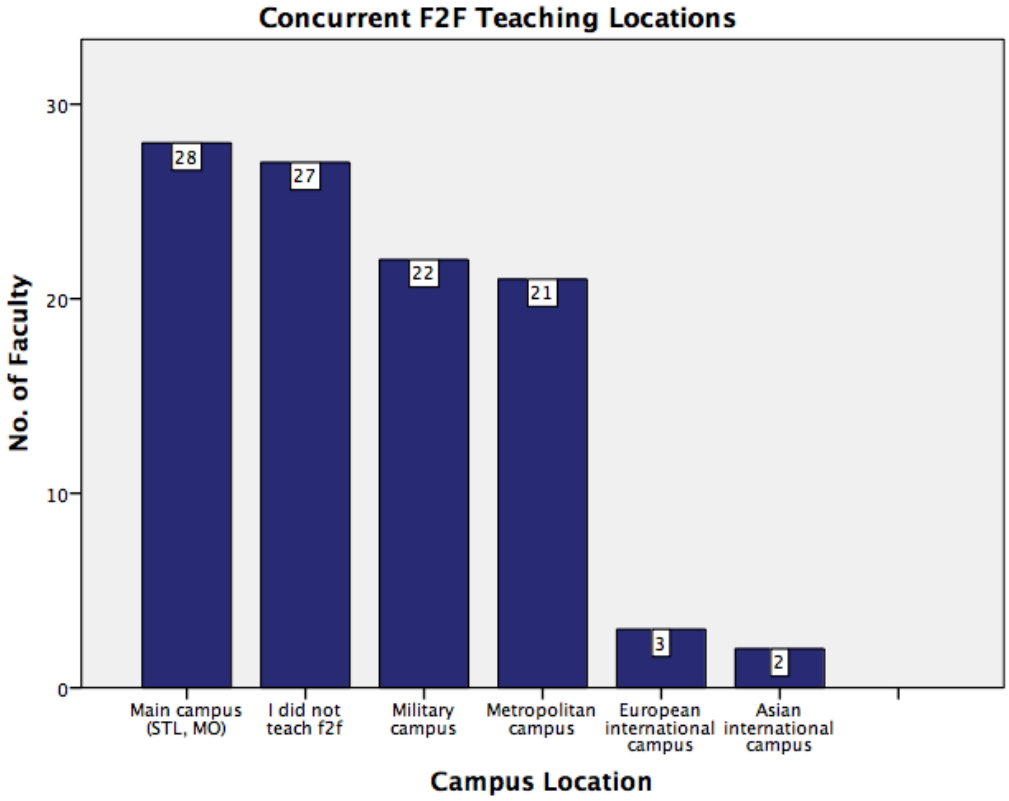

Figure 5. Campus location of instructor teaching concurrent face-to-face courses while teaching online.

A frequency analysis of instructor visits to the main campus located in the Midwest region of the United States indicated that 33% (*n*=32) have never been to the main university campus, 32% (*n*=31) visit about once per year, and a combined 35.1% (*n*=34) visit the campus more than once per month.

Types of Video Used in Online Course

For this study the various forms of online video were categorized into four discrete categories: instructor-created, third party, student-created, and synchronous video. Throughout the survey participants were asked to identify the types of videos that they used in their focal online course for the survey. The survey questions were designed to allow for instructors to report combinations of videos with the general understanding that any course in the study could potentially have any combination of one, all, or none of the video type categories represented in their course.

A frequency analysis was conducted to determine the number of each type of video used in the participants' online course at least once (Figure 6). The frequency analysis indicated that 75% (*n*=75) used third party video, 41% (*n*=41) used instructor-created video, 13% (*n*=13) used student-created video, and 8% (*n*=8) used synchronous video in their online course.

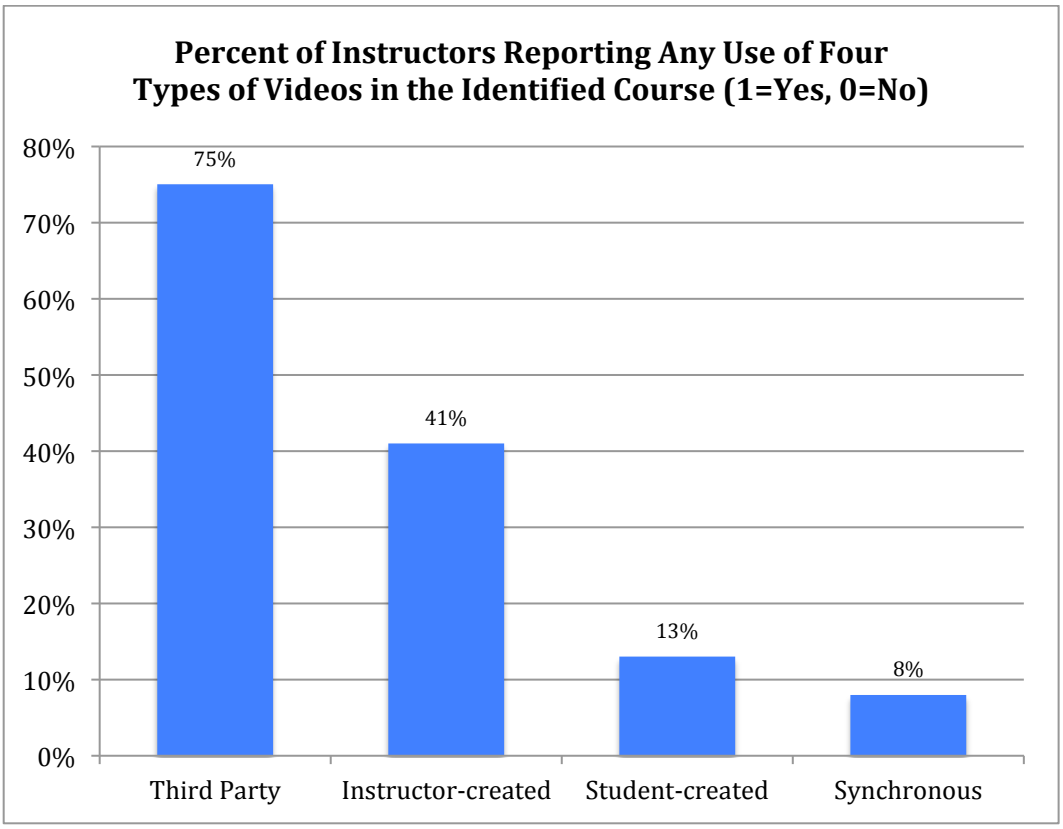

Figure 6. Types of videos used at least once in online course. Percent of instructors reporting any use of four types of videos in identified online course.

Video Requirement

Respondents were asked to identify the requirement level of the different forms of video, identifying required, optional, or unspecified. Using a frequency analysis for each classification of video (instructor-created, third party, student-created, and synchronous) the data indicated that viewing both instructor-created and third party created videos were required to view as part of their course. The data collected indicated that 50.8% (*n*=33) required the viewing of instructor-created video and 23.1% (*n*=15) reported that viewing instructor-created video was an optional. Compared to the third party videos, 62.7% (*n*=52) respondents

indicated that it was required and 30.1% (*n*=25) indicated it was optional. The responses indicated that the requirement to watch synchronous (77.8%) and student-created (66.7%) video was not specified in the course. A correlation analysis across frequency of video use and requirement to watch video indicated a significant positive relationship. Instructor-created video had a correlation of *r*=.65, *p*<.001, and was followed by third party video *r*=.48, *p*<.001, student-created video *r*=.83, *p*<.001, and synchronous video *r*=.68, *p*<.001 indicating a positively significant relationship.

Approximate Mean Length of Videos Used

Using a frequency analysis of mean range of length (in minutes) the table below indicates the various lengths of videos based on the four video types (instructor-created, third party, student-created, and synchronous). As shown in Table 2 instructor-created videos tended to be shorter in length than third party video.

Table 2

Approximate Mean Length of Instructor-created, Third Party, Student-created, and Synchronous Video

(time = t in minutes)	t.<3	3-5	5-10	10-15	15+	30+	60+	N
Instructor-created	11.3 %	**25%**	13.8%	5%	2.5%	**5%**	-	50
Third party	6%	19.3%	**25.3%**	14.5%	12%	12%	4.8%	78
Synchronous	1.3%	1.3%	2.7%	-	2.7%	**5.3%**	1.3%	11
Student-created	6.5%	3.9%	**7.8%**	5.2%	-	-	-	18

A repeated measures analysis was performed on the mean length of videos and the course subject grouped by academic unit. The analysis indicated there were no statistically significant findings.

Course Subject and Video Type

A repeated measures *ANOVA* analysis with a Greenhouse-Geisser correction determined that mean video type use of colleges or schools differed statistically significantly between the type of videos used $F(2.63,247.39)=56.18$, $p<.001$. Post hoc tests using the Bonferroni correction revealed that the differences between the individual video types was significant for all comparisons at the $p<.001$ level with the exception of the differences between student-created video and synchronous video ($p=.254$). The mean use of video type by course subject (grouped by college/school) (Table 3) is listed in full in the table below.

Table 3

Type of Video Used by College: Repeated Measures ANOVA

Means	Instructor-created	Third Party	Student-created	Synchronous	N
College of Arts & Sciences *	.44	.75	.13	.06	16
School of Business & Technology *	.27	.71	.05	.09	55
School of Communications *	.69	.92	.08	.00	13
School of Education *	.64	.71	.43	.14	14
Total	.41	.74	.12	.08	98

**Significant at p<.001 (1= used 0= not used)*

Figure 7 below further illustrates the relationship between the mean types of video used by department. Through this illustration it is clear how little student-created

and synchronous video are used compared to instructor-created and third party videos.

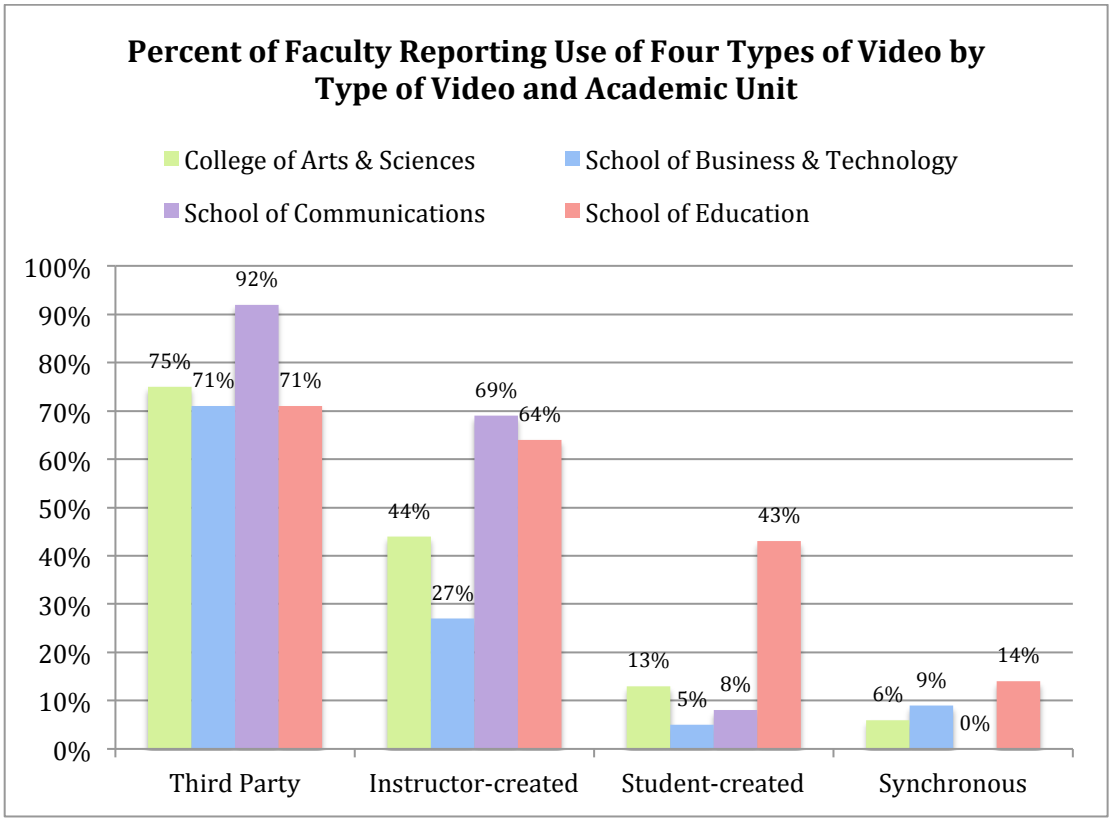

Figure 7. Percent of faculty reporting use of four types of video by type of video and academic unit.

Age, Experience, and Type of Video Used

A Pearson correlation analysis comparing age of respondents and teaching experience indicated a statistically significant relationship between the types of video used. The relationships of age and years of teaching experience to the four types of video varied. For example, age was negatively related to use of instructor-created video. The data indicated a significant relationship of r=-.31, p=.002 between age and use of instructor-created video and between age and use of

student-created video r=-.47, p<.001. These results indicated that younger instructors were more likely to use instructor-created and student-created video in their online course. The Pearson correlation also indicated that there was a significant negative relationship r=-.26, p=.009 between years of higher education teaching experience and the use of student-created videos. Years of online higher education teaching experience was indicated to have a significant positive relationship to the use of third party videos r=.24, p=.015 and the use of synchronous video r=.21, p=.04 indicating instructors with more years of online teaching experience are more likely to use third part and synchronous videos. These results were further supported by a linear regression analysis. These variables statistically significantly predicted age seen in Table 4. Instructor-created and student-created video variables were statistically significant to the prediction of p<.05. Linear regression analysis also supported the correlations finding between years of online higher education teaching experience and the use of third party and synchronous videos seen in Table 5. The third party and synchronous video variables added statistically significantly to the prediction of p<.05.

Table 4

Linear Regression ANOVA Age vs Video Type

Dependent Variable	Mean Square	F	Significance
Instructor-created video *	2.15	9.83	.002 *
Third party video	0.002	.008	.927
Student-created video **	1.98	26.6	.000 **
Synchronous video	0.074	0.97	.331

** Significant at p<.05 ** Significant at p<.001*

Table 5

Linear Regression ANOVA Online Experience vs Video Type

Dependent Variable	Mean Square	F	Significance
Instructor-created video	0.036	0.14	.705
Third party video	1.11	6.1	.015 *
Student-created video **	0.041	0.352	.554
Synchronous video *	0.313	4.32	.04 *

** Significant at p<.05 ** Significant at p<.001*

Frequency of Video Use

In addition to collecting data on the types of video that were used at least once, the frequency of video type was related to the research questions RQ1 and RQ2 to help provide a clear understanding of how videos are used in an online course. A frequency analysis of video type offered indicated that 25.4% (*n*=18) used instructor-created video once or more during their course, 22.5% (*n*=16) frequently used instructor-created video, and 18.3% (*n*=13) used it several times. Looking at the frequency of third-party videos there is a clear difference between the balances of use. Again using a frequency analysis indicated that 53.7% (*n*=47) frequently used third-party video, 20.7% (*n*=17) used it once or twice, and 15.9% (*n*=13) used it several times. Student-created video frequency was reported as 14.1% (*n*=9) used them once or twice, 7.8% (*n*=5) used them frequently, and 6.3% (*n*=4) used them several times. A correlation analysis indicated that there were no significant relationship at the .05 level between instructor age or experience in online or higher education and the frequency of use for any type of video.

Overall Frequency of Video Use

In addition to collecting data on the specific uses and frequency of the various four categories of video, survey participants were asked to rate how often they used any video (including all of the categories covered) in their online course. A frequency analysis (Figure 8) of the use of any form of video indicated that a combined 82.7% (*n*=81) used video at least once every two to four weeks or more. A correlation analysis (Table 6) revealed a strong positive correlation of *r*=.46, *p*<.001 between the frequency of instructor-created video and student-created videos, and a correlation of *r*=.46, *p*<.001 between the frequency of student-created video and synchronous video.

Table 6

Correlation of Frequency of Video Type Use

	FRQ: Instructor-created	FRQ: Third Party	FRQ: Student-created	FRQ: Synchronous
FRQ: Instructor-created	1	.0328(.82)	**.461(.000)***	.062(.63)
FRQ: Third Party	.028 (.82)	1	.144(.26)	.191(.13)
FRQ: Student-created	**.461(.000)***	.144(.26)	1	**.457(.000)***
FRQ: Synchronous	.062(.63)	.191(.13)	**.457(.000)***	1

**Significant at p<.001 level. (r value (p))*

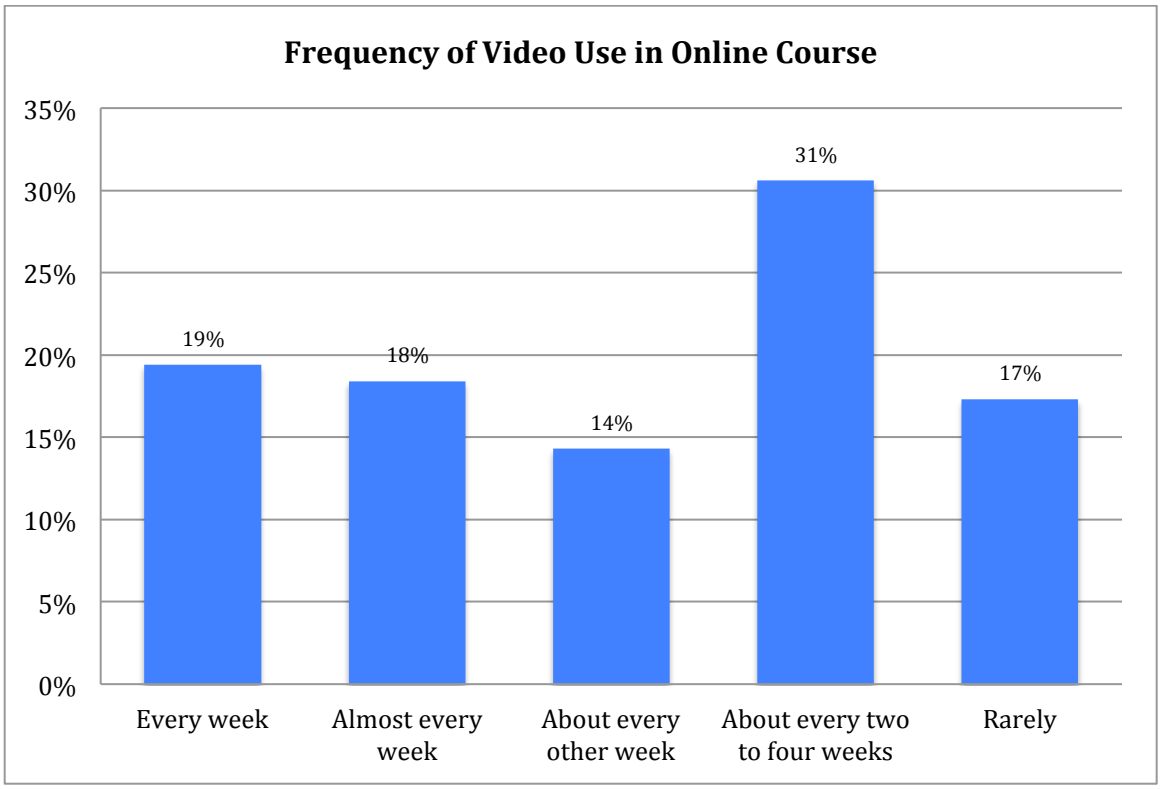

Figure 8. Frequency of any form of video use in online course.

Frequency of Video Inclusion Method

There are various methods available for instructors to include videos in their online course and this survey was designed to capture whether instructors were simply using HTML links to the video content outside of their course environment, embedding the video player into the online course, or uploading video files directly into the course management system (CMS). Looking first at the respondents that used a hyperlink to link to a video on another site (e.g. YouTube, Lynda.com, Vimeo, etc.) 50% (*n*=37) reported that they occasionally link to videos, and 35.1% (*n*=26) report linking to videos frequently. Instructors who embedded videos reported that 42.3% (*n*=30) do so occasionally, and 38% (*n*=27) embed videos in their online

course frequently. Finally, looking at those that upload video files directly into the CMS report that 38.9% (*n*=28) upload videos occasionally, and 37.5% (*n*=27) do so frequently.

Pedagogical Use of Video

To understand how videos of various types (instructor-created, third-party, student-created, or synchronous) are used within the course the survey collected data from participants on the identified primary purpose of instructor-created and third-party video. Data were also collected on the use of video as a component of course content or as a communication tool. By collecting this information we gain a better understanding the use of video as it related to the pedagogical function of the online course.

Instructor-created Video

A frequency analysis of the primary purpose of instructor-created video indicated that instructors reported 46.2% (*n*=18) were used as mini lectures or demonstrations, 30.8% (*n*=12) were used as course related instructions, 10.3% (n=4) were used as full length lectures or demonstrations, 2.6% (*n*=1) were used as communication updates, and 10.3% (*n*=4) used instructor-created video as course or module introductions by writing in the "other" response category.

Third-party Video

The results indicated that instructors reported the primary use of third party video was supplemental and primary course content. A frequency analysis indicated that 56.8% (*n*=42) used video as supplemental content while 40.5%

(*n*=30) used it as primary course content, and 1.4% (*n*=1) used video as inspirational content in their online course

Combined Measure of Video Use

To gain a composite measure of the use and frequency of videos in an online course a new variable was computed to describe the combined course content and communication tool by taking the sum the individual scores and the mean of the resulting value seen in Figure 9. The descriptive results indicate that the School of Communications *M*=2.11 and the School of Education *M*= 1.98 had the highest mean composite measure of video-frequency use with the College of Arts and Sciences *M*=1.66 and School of Business & Technology *M*=1.59 following. A regression analysis on the composite measure indicated that online teaching experience is statistically significant in the prediction of the combined video use $F(1,50)=11.38$, $p=.001$, $R^2=.185$.

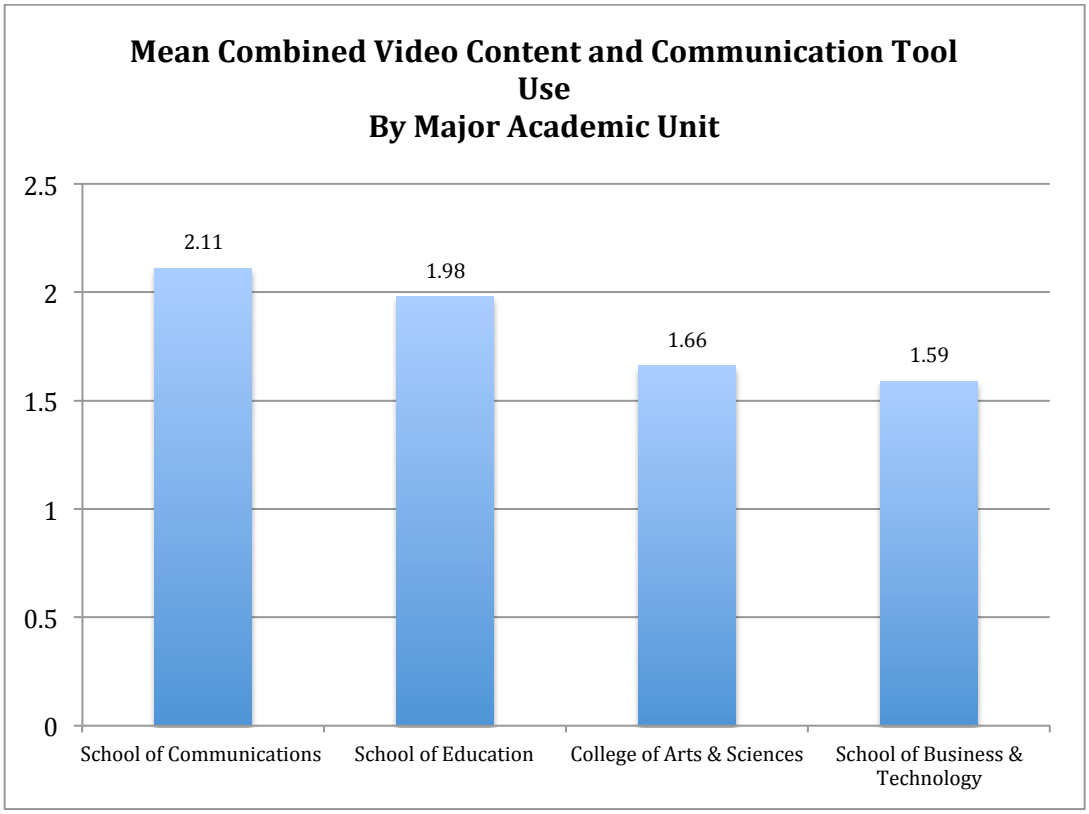

Figure 9. Combined mean of video content and communication use by major academic unit.

Pedagogical Value of Online Video

In addition to collecting data on the types and frequency of video being used in online courses the survey also collected the data on the perceptions of how videos impact the overall course experience. The participants were asked to rate how strongly they agreed with several statements on the impact of instructor-created and third-party video on various aspects of the course through a 5-point Likert scale with responses coded as (1=strongly disagree, 5=strongly agree). The data collected in this section of the survey provided data to answer research questions RQ2 and RQ3 on the perceived pedagogical use and effect on student engagement in the course.

Perceptions of Instructor-created Video

Key findings on the faculty perceptions of instructor-created video in online courses can be seen in Table 7. The results indicated the average agreement of instructor perceptions that instructor-created video increased the overall quality of the course, increased student learning, and increased the social presence in the course as well as student engagement.

Table 7

Faculty Perceptions of Use of Instructor-created Video in Online Course

	N	Min	Max	Mean	Std. Deviation
Increased overall quality of course **	93	2	5	3.84	0.89
Increased student learning **	92	1	5	3.73	0.93
Increased social presence	92	1	5	3.7	0.87
Reduced redundancy *	92	1	5	3.36	0.87
Reduced split-attention	92	1	5	3.27	0.88
Increased understanding of complex concepts **	92	1	5	3.71	1.0
Increased student engagement **	92	1	5	3.67	0.90

Mean based on 5-point Likert Scale (1=strongly disagree, 5=strongly agree)
**Significant at p<.05 level **Significant at p<.001 level*

Perceptions of Third-party Created Video

Key findings from instructor perceptions of third-party videos can be seen in Table 8. Similar to faculty perceptions of instructor-created video, the results indicated the average agreement of faculty perceptions that third party video increased the overall quality of the course, increased student learning, and increased student engagement in the online course.

Table 8

Faculty Perceptions of Use of Third Party Video in Online Course

	N	Min	Max	Mean	Std. Deviation
Increased overall quality of course **	97	2	5	4.24	0.81
Increased student learning **	97	2	5	4.27	0.78
Increased social presence	95	1	5	3.55	1.1
Reduced redundancy *	96	1	5	3.61	1.02
Reduced split-attention	93	1	5	3.45	1.04
Increased understanding of complex concepts **	97	2	5	4.07	0.92
Increased student engagement **	96	2	5	4.04	0.88

Mean based on 5-point Likert Scale (1=strongly disagree, 5=strongly agree)
**Significant at p<.05 level **Significant at p<.001 level*

Comparing Instructor-created and Third party Video Perceptions

Using a one-sample t-test analysis the means of instructor-created ratings from Table 7 were compared to the means of third-party video ratings in Table 8 to test for any significant differences using a 95% CI. The results of the comparison indicate that there is a statistically significant difference between the means at the $p<.05$ level of increasing overall quality of the course, increasing student learning, reducing redundancy, increasing understanding of complex topics, and increasing student engagement. The increase of social presence $t(94) = -1.35$, $p=.18$ and reduction in split attention $t(92) = 1.68$, $p=.095$ were not statistically significant. The results of this one-sample t-test indicated that with the exception of the increase in social presence, and reduction in split attention categories, the difference in faculty perceptions of third-party video compared to instructor-created video is statistically significant. Comparing the average level of agreement

for each statement indicated that with the exception of the non-significant findings, instructor perceived third-party videos to increase overall course quality, student learning, understanding of complex topics, student engagement and reduce redundancy and split attention more than instructor-created videos. The comparison of instructor perceptions of pedagogical value between instructor-created and third party video is illustrated in Figure 10 below.

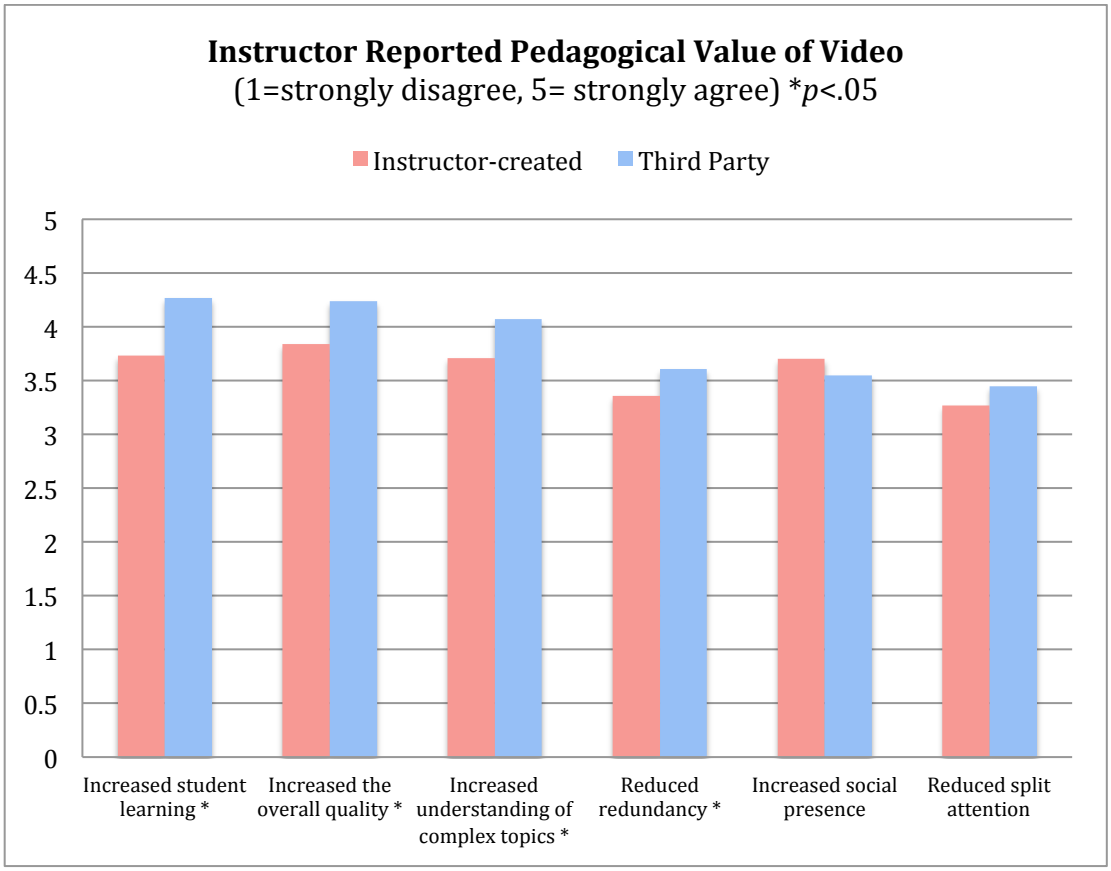

Figure 10. Instructor reported mean pedagogical value of video across six categories.

Figure 11 shows the differences in instructors' perceptions of increasing student engagement between instructor-created and third party video by major academic unit. Both video types were reported to have a positive increase on student engagement. A one-sample t-test $t(96)=4.13$, $p<.001$ indicated that while both video

types were felt to increase student engagement, third party video was rated significantly higher in agreement.

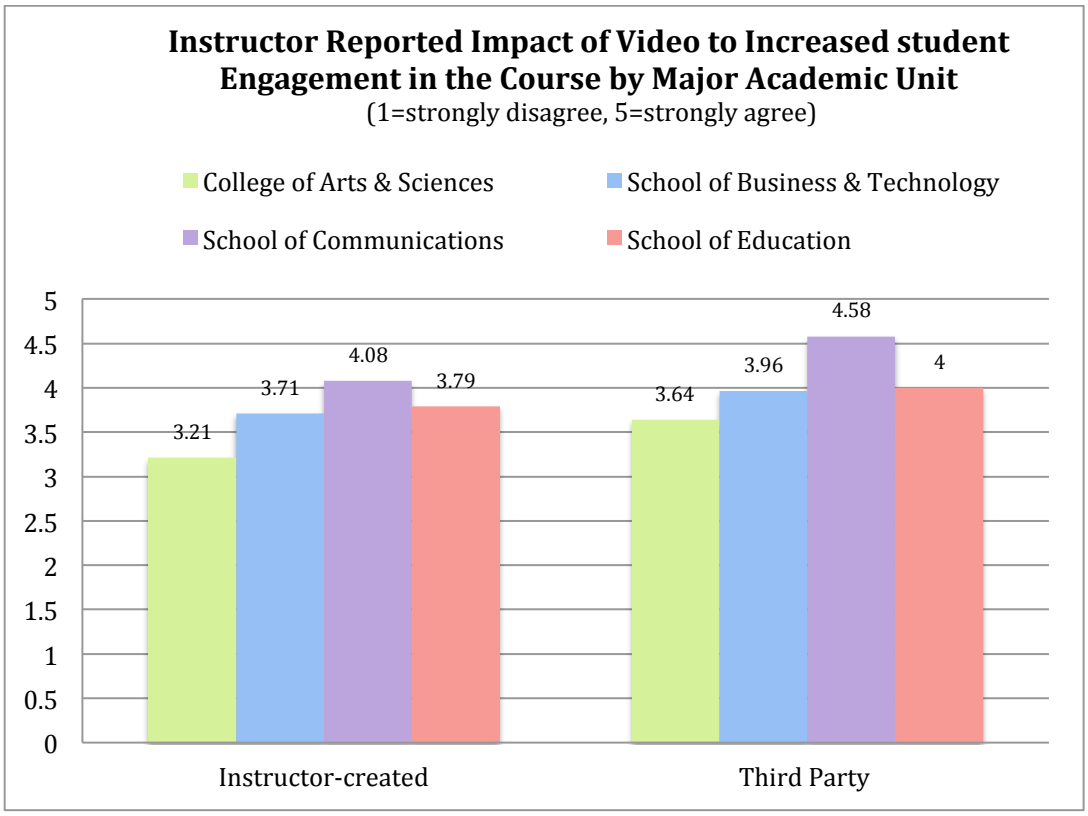

Figure 11. Instructor reported impact of video to increase student engagement in the course by major academic unit.

Perceptions of Synchronous Video

As online video technology becomes increasingly accessible for online instructors and students provides more opportunities for live video communications. The research survey asked participants to rate how they felt about the use of synchronous (live) video in their online courses. Specifically three areas of synchronous video use were identified, and the average level of indicated faculty agreement can be seen below in Table 9.

Table 9

Faculty Perceptions of Usefulness of Synchronous (live) Video

	N	Min	Max	Mean	Std. Deviation
Useful for virtual office hours	91	1	5	3.42	0.97
Useful for delivering course content	91	1	5	3.26	1.0
Useful for group projects	90	1	5	3.32	0.83

Mean based on 5-point Likert Scale (1=strongly disagree, 5=strongly agree)

Synchronous video use was the lowest overall used video format in online courses from this study with only 8% (Figure 6) of faculty indicating they used it. The results of the perceptions of synchronous video were broken down based on major academic unit to gain a more salient picture of how live video use was valued by different colleges represented in the study. The perceived pedagogical value of synchronous video use by major academic unit is illustrated in Figure 12. A Cronbach's alpha of .84 indicated that these items are grouped together tightly and provide evidence to support that if a college feels positively on one item, they will feel positively on other uses as well.

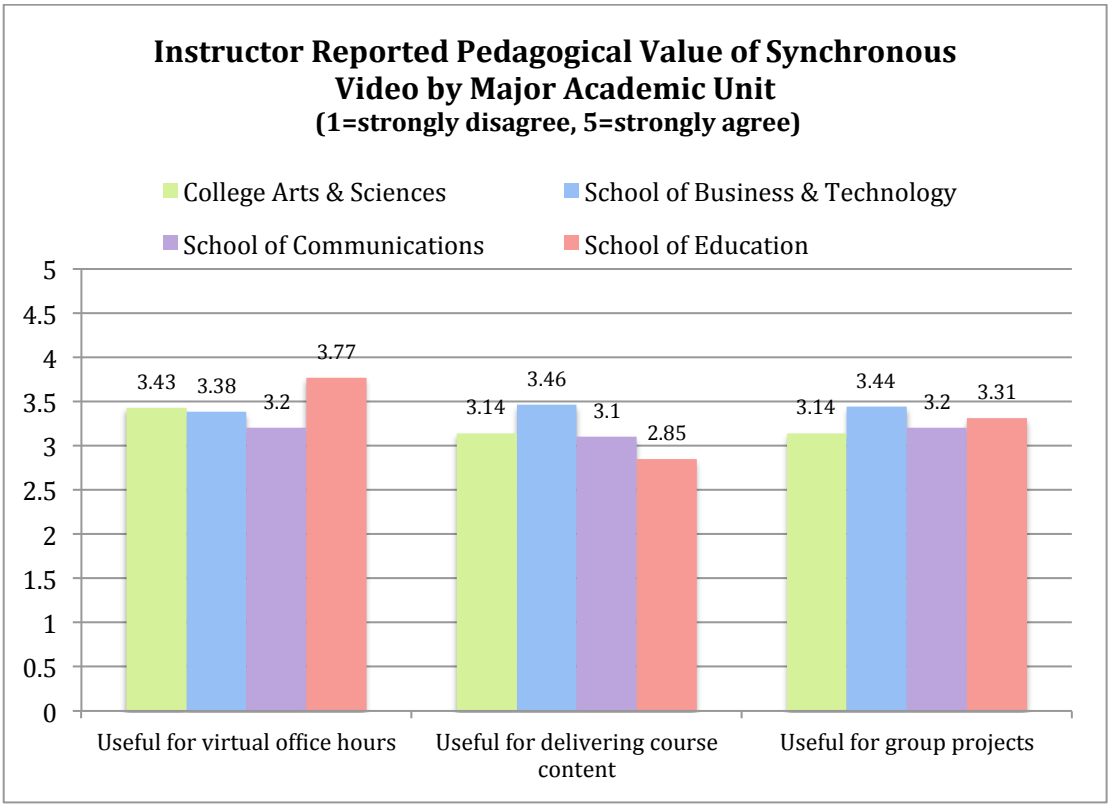

Figure 12. Instructor reported mean pedagogical value of synchronous video by major academic unit.

Future Use of Video

Capturing the use of videos in the online course over the 2013-2014 academic year provided a cross-sectional view during that one timeframe only. Additional information was collected on forward projections of continued use of video to help understand the intended future use of video in online courses. Respondents were asked about their intentions to use video in the next one to two years. A frequency analysis (Figure 13) indicated that 67.5% (*n*=64) project they will add more videos to their course in the next one to two years, and 30.5% (*n*=29) would require student-created videos to be included in the online course.

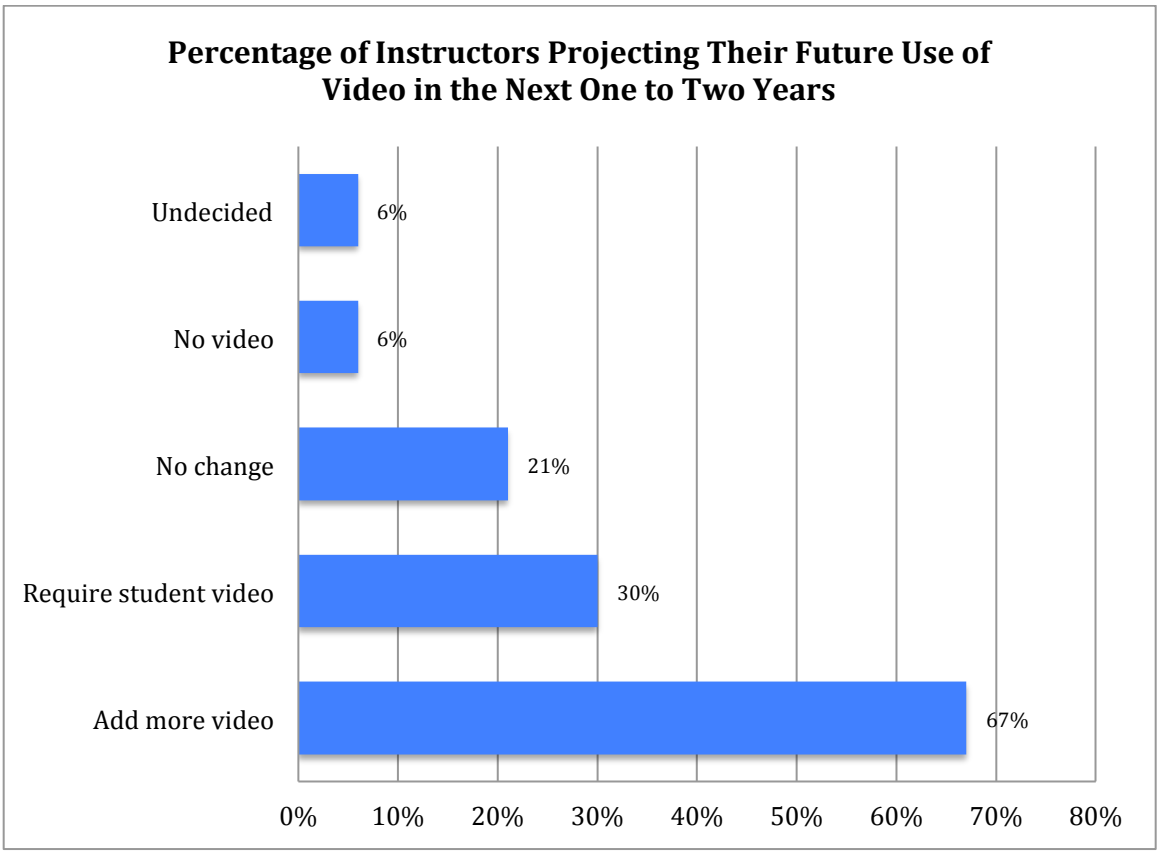

Figure 13. Instructor projections of future video use in the next one to two years.

Self-Efficacy of Online Instructors

This study was aimed to gain an understanding of faculty uses and perceptions of video in their online course. To answer the research questions put forth by this study, the survey was designed to capture the instructors' self reported level of proficiency on several areas: technology knowledge, pedagogical knowledge, and content knowledge as they relate to the TPACK framework. In each section the participants rated their level of agreement to the statements on a 5-point Likert scale. The coding of the Likert-scale agreement ranked (strongly disagree = 1, strongly agree=5).

Technology Content Knowledge (TK)

The technology knowledge section indicated that overall the participants agreed with the statements of having proficient technology knowledge as seen in Table 10. The two statements most strongly agreed with were learning about new technology on their own, and experimenting with new technology. The lowest reported area of technology self-efficacy was the statement of being an advanced user of online technologies.

Table 10

Faculty Self-Efficacy of Technology Knowledge (TK)

	N	Min	Max	Mean	Std. Deviation
I solve my own technical issues	96	1	5	3.66	1.23
I learn about new technology on my own	96	2	5	4.05	0.88
I stay up-to-date on latest technology	96	2	5	3.77	1.12
I experiment with new technology	95	2	5	4.0	0.96
I am an advanced user of online tools	96	1	5	3.47	1.27

Age was significantly correlated with instructors' self-efficacy with online technology, with younger instructors reporting greater levels of self-efficacy. The strongest correlation was between age and the statement "I solve my own technical issues". The only relationship between technology self-efficacy and age that did not have a significant relationship was the statement on experimenting with new technologies. All of the correlations can be seen in Table 11 below.

Table 11

Correlation of Faculty Self-Efficacy of Technology Knowledge (TK) and Age

	Correlation (*r*)	Significance (*p*)
I solve my own technical issues	-.34 **	.001 **
I learn about new technology on my own	-.25 *	.014 *
I stay up-to-date on latest technology	-.30 **	.003 **
I experiment with new technology	-.18	.087
I am an advanced user of online tools	-.29 **	.005 **

** Pearson correlations with significance of p<.05*
*** Pearson correlation with significance of p<.01*

Technology and Pedagogical Knowledge (TPK)

This section of the survey instrument collected data on the self-efficacy of technology use towards course pedagogy. Overall instructors agreed that they used technology in their course in a positive or effective way as seen in Table 12. The highest rated statement was using technology to enhance students' learning in the course. The lowest rated statement was on adapting technologies for different purposes in the course.

Table 12

Faculty Self-Efficacy of Technology & Pedagogical Knowledge (TPK)

	N	Min	Max	Mean	Std. Deviation
I use technologies that enhance my teaching in the course	97	2	5	4.22	0.81
I use technologies that enhance students' learning in the course	97	2	5	4.30	0.75
I use technologies that enhance the course content	97	2	5	4.31	0.74
I adapt technologies for different purposes in the course	97	1	5	3.88	1.01
I carefully evaluate the technology used in the course	96	2	5	4.0	0.89

Pedagogical Knowledge (PK)

In the pedagogical knowledge section of the portion of the survey respondents were asked to rate their level of agreement on their level of proficiency on pedagogical aspects of online teaching only, leaving out the use of technology into the factor of the response. In this section the respondents indicated high levels of agreements for each pedagogical statement. The full results are listed in Table 13. A Pearson correlation analysis r=.24, p=.021 indicated there is a significant relationship between years of online teaching experience and the statement "I can adapt course materials & delivery for various learning styles".

Table 13

Faculty Self-Efficacy of Pedagogical Knowledge (PK)

	N	Min	Max	Mean	Std. Deviation
I know how to asses student performance	96	3	5	4.53	0.54
I am able to adapt my teaching methods to better match student understanding	96	2	5	4.37	0.73
I can adapt course materials & delivery for various learning styles*	96	2	5	4.20	0.78
I am familiar with common student understandings or misconceptions	96	2	5	4.37	0.64
I organize my course to avoid confusion or inconsistency	96	3	5	4.52	0.56

**Significant at p<.05 level*

Content Knowledge (CK)

This section, similar to the pedagogical section does not take technology use into account but focuses on the self-efficacy of instructors on their own perceived level of content knowledge. The full results are presented below in Table 14, and similar to pedagogical knowledge the respondents indicated that they overwhelmingly agreed with the statements on their content knowledge. A correlational analysis indicated that there were no significant relationships between content knowledge and age or experience.

Table 14

Faculty Self-Efficacy of Content Knowledge (CK)

	N	Min	Max	Mean	Std. Deviation
I have sufficient knowledge in the course content area	96	3	5	4.76	0.45
I have various methods and strategies of developing understanding of course content	96	2	5	4.65	0.56
I evaluate the course content to ensure its up-to-date	96	2	5	4.56	0.65

To provide an overview of the total levels of self-efficacy indicated by instructors across the various TPACK categories the mean scores for each category were calculated and reported in Figure 14. This figure illustrates that overall, instructors reported the lowest levels of self-efficacy on technology knowledge, and the highest level of content knowledge.

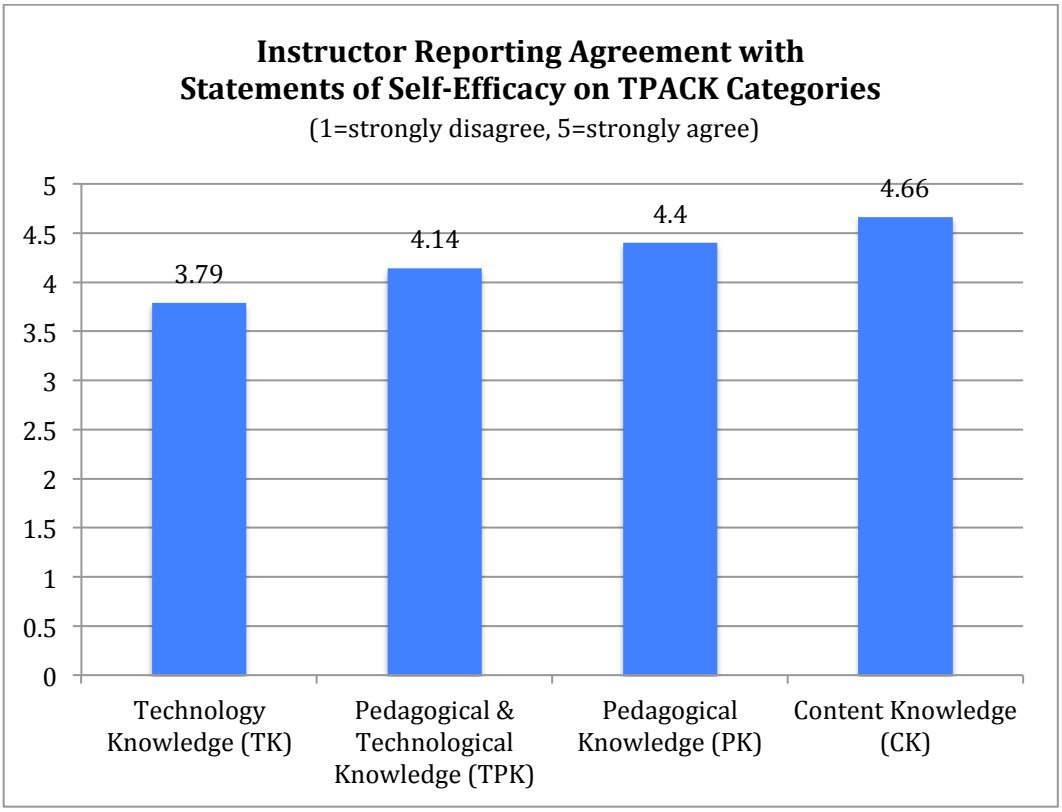

Figure 14. Instructor reported level of agreement with statements of self-efficacy of TPACK categories.

Video Technology Knowledge

Extending the investigation of self-efficacy of technology beyond the more generalized scale used in Table 10, data was also collected on the self-efficacy reported by instructors on several specific areas of using video technology in their online course. This section of the survey may have been viewed as redundant, but it provided a more granular indication of the specific skills and knowledge needed to work with video in online course environments. When asked to rate their level of experience on a 5-point Likert scale (1=beginner, 5=expert) the respondents indicated that when sharing video hyperlinks or embedding videos they reported higher levels of agreement compared to editing video or using the CMS built-in

video tools, or creating screencasts. The full results can be seen in Table 15 and Figure 15.

Table 15

Faculty Expertise Level of Online Video Technology (VT)

	N	Min	Max	Mean	Std. Deviation
Creating and sharing video links	96	1	5	3.56	1.34
Embedding a video in course content	96	1	5	3.43	1.35
Filming and uploading my own video	95	1	5	2.88	1.42
Editing my own video content	96	1	5	2.64	1.41
Capturing my own screencast	96	1	5	2.75	1.42
Using Canvas (CMS) built-in video recording	95	1	5	2.62	1.37

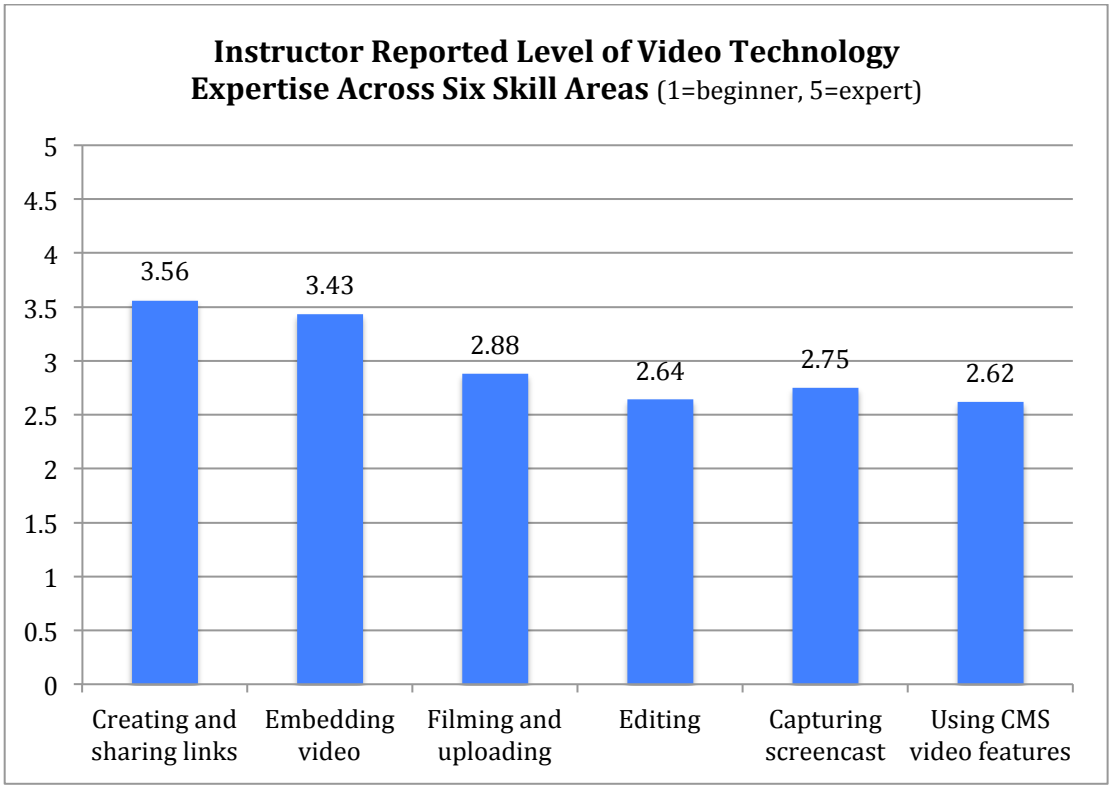

Figure 15. Instructor reported level of video technology expertise across six skill areas.

A Pearson correlation indicated that there was a strong significant relationship across the self-efficacy of video technology knowledge and age of instructors. The correlations of video technology self-efficacy and instructor age can be seen in Table 16.

Table 16

Correlation of Faculty Expertise Level of Online Video Technology (VT) and Age

	Correlation (*r*)	Significance (*p*)
Creating and sharing video links	-.31**	.002 **
Embedding a video in course content	-.32* *	.002 **
Filming and uploading my own video	-.34 **	.001 **
Editing my own video content	-.21*	.040 *
Capturing my own screencast	-.24*	.019 *
Using Canvas (CMS) built-in video recording	-.14	.172

** Pearson correlations with significance of p<.05*
*** Pearson correlation with significance of p<.01*

Instructional Support and Online Course Development

Throughout the research survey, participants were asked about different instructional support resources and if they received the support they wanted in connection with the facilitation of their online course. In addition to gathering information on the support services available the survey also collected data on aspects of the creation of instructor-created video to gain an understanding of the factors that influenced the instructors decision to create and share video with the online course or not. The data collected can provide evidence to answer research

question number four (RQ4) on identifying key factors influencing the decision to create videos including barriers perceived by instructors, and the support received from the university.

Development Time and Resources

There is often an assumption in online higher education that instructors can simply "move" a traditional course to an online platform with relative ease. To understand the time involved in preparing and teaching an online course participants were asked to rate their estimated amount of time invested in teaching their online course compared to teaching a traditional face-to-face course. A frequency analysis (Figure 16) indicated that a combined 71.1% (*n*=69) reported that faculty feel that they spend slightly more to significantly more time on online courses than a traditional face-to-face course, and 17.5% (*n*=17) felt it took the same amount of time.

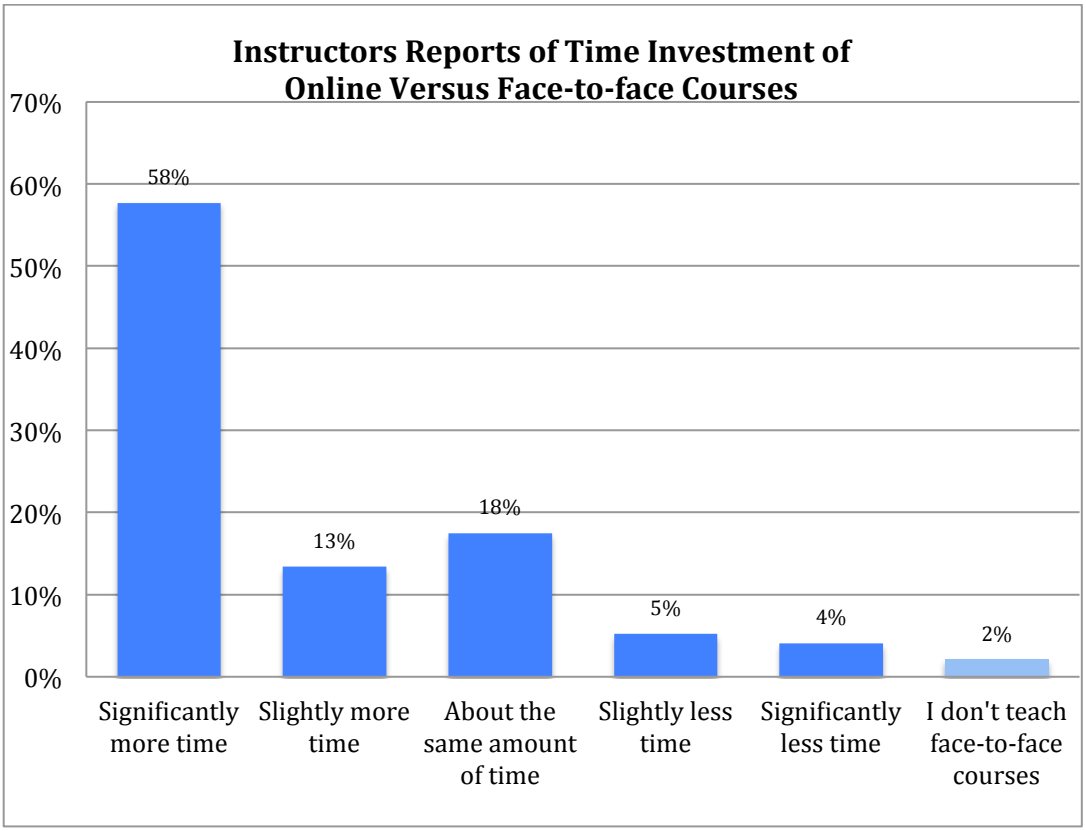

Figure 16. Instructors reported perception of time investment comparison between online and face-to-face courses.

In addition to investigating the amount of time instructors reported investing in their online course this study gathered data on how respondents felt about receiving adequate support on various aspects of course development. Using a 5-point Likert scale, faculty respondents indicated their perceived level of agreement in receiving university support in six categories of online course development and support (Table 17). Overall the respondents indicated that they agreed they received adequate support from the university in course development and support. The highest rated agreement was technical support on the course management system, and the least agreed statement was on assistance of video production.

Table 17

Course Development Resources and University Support

	N	Min	Max	Mean	Std. Deviation
Course development time	97	1	5	3.94	1.02
Instructional design resources	97	1	5	4.05	0.97
Technical support (CMS) Canvas	97	1	5	4.06	0.97
Pedagogical resources for online teaching & learning	97	1	5	3.77	1.12
Professional development	97	1	5	3.60	1.17
Video production assistance	97	1	5	3.21	1.18

When asked to rank the five categories of online course development resources and university support, the respondents indicated that the most important element was course development time followed by instructional design support, and professional development in online teaching and learning as the top three areas. The full table of support ranking is listed in Table 18.

Table 18

Course Development and Support Ranking

Rank	Area of Support	n
1	Course development time	90
2	Instructional design support	89
3	Professional development in online teaching & learning	90
4	Online course management (CMS) training	89
5	Video production training	89

Instructors were also asked about the frequency in which they sought assistance or support for their online course from the Online Learning Center which is the university group that manages and hosts the course management system Canvas. A frequency analysis (Figure 17) of the amount of times support was asked for indicated that 25.3% (*n*=24) sought support once per teaching period and 14.7% (*n*=14) sought support more than once during the teaching period. By contrast a combined 60.1% (*n*=57) requested support less than once during a given teaching period.

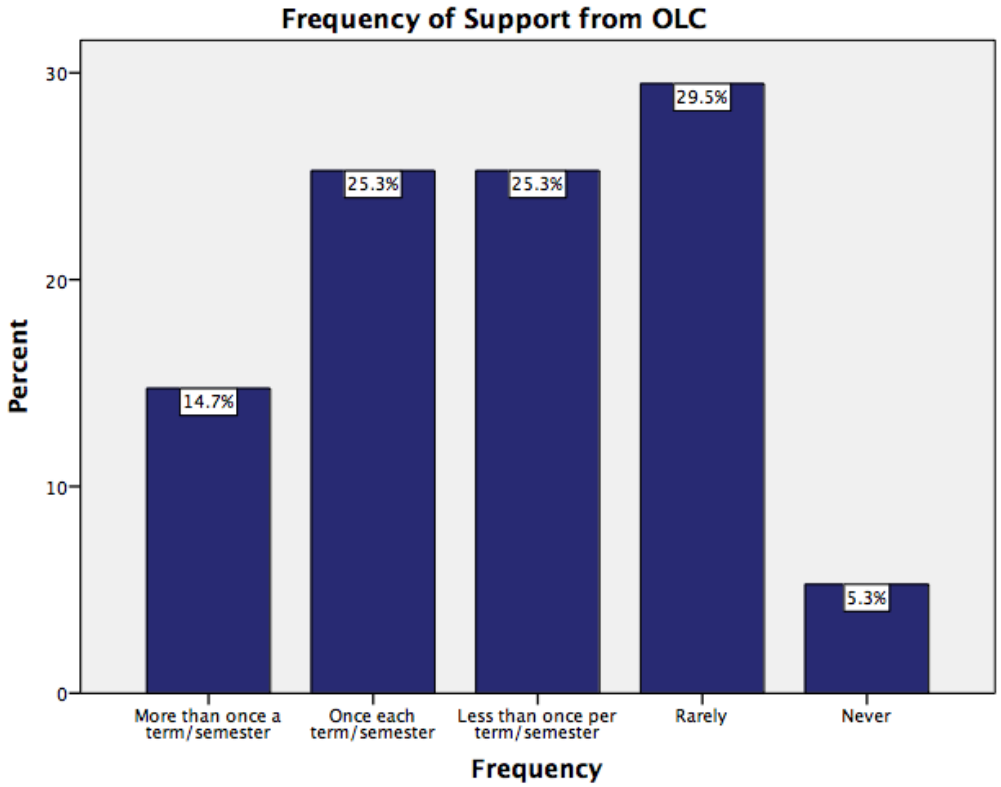

Figure 17. Frequency of Online Learning Center support sought by online instructors.

Instructors were asked if they participate in the Reflective Teaching Community, an online group of faculty that is hosted by the university Faculty Development Center. The data collected indicates that only 10.4% (*n*=10) participated in the Reflective Teaching Community and that 45.8% (*n*=44) did not, and 43.8% (*n*=42) were unaware of the online community.

Instructor-created Video Production

One of the research questions (RQ4) for this study was aimed to identify key factors that influenced an instructors' decision to create videos for their online course. This research question contained two subsequent questions specifically looking at identifying barriers that instructors encountered, and looked at how the institutional support influenced their decision to create videos. The survey instrument was designed with a special branched section visible only to respondents that indicated they had used instructor-created video in their online course. This branched section collected data on various aspects of the video production process to provide insight into the decisions instructors made when choosing to develop their own videos. Survey respondents indicated that 41% (*n*=41) used instructor-created videos at least once in their online course. This sub-sample of respondents was asked about their pre-production, and post-production processes of video creation. As reported previously, the main use of instructor-created video was identified as mini-lectures or demonstrations with a mean length of 3 to 5 minutes.

Pre-production Process

A frequency analysis of the planning of instructor-created video indicated that 61.5% (*n*=24) planned and created videos in advance of the start of course, 25.6% (*n*=10) planned and created videos both in advance and during the course. When planning videos for use in online courses 57.9% (*n*=22) instructors reported that the intended audience (e.g. students) was the central point of consideration for the video production, while 39.5% (*n*=15) indicated audience is indeed important, the subject or content was the central consideration for production. In terms of video reusability 68.4% (*n*=26) indicated their videos can be used in future offerings of the same course, 18.4% (*n*=7) indicated that each video was only created for one specific course term or semester.

Respondents were asked to report on the specific video elements that were included in their video production. Figure 18 shows the breakdown of the various shot types by frequency of use. The most often used shot type indicated was the "talking head" (*n*=26) of the instructor speaking directly to the camera.

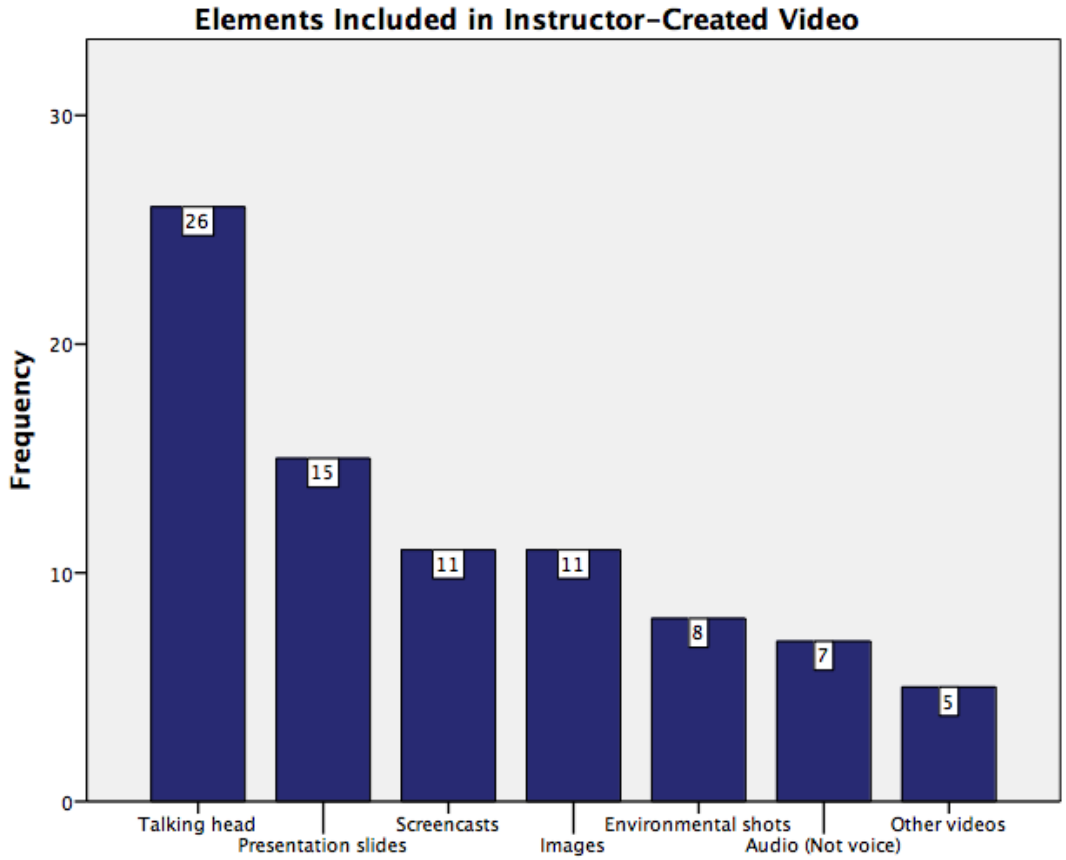

Figure 18. Frequency of instructor-created video elements and shot types present in video.

Respondents indicated that a combined 67.5% (n=25) sometimes or always include or make available the materials used in their videos such as PowerPoint slides, audio recordings, images, or other files for students, while 32.4% (*n*=12) never make materials used in their video productions available for students. During the video production process faculty indicated that the majority *n*=17 did not seek any support, and those who did sought help from online tutorials (*n*=12), the Online Learning Center (*n*=11), and colleagues (*n*=5).

Post-production

Many video platforms today (YouTube, Vimeo, etc.) have accessibility features built into them including automated transcripts, closed captioning to increase the use of videos for a wider audience in an online environment. The respondents in this survey indicated that the majority (*n*=19) did not use any accessibility features (Figure 19) when creating or posting their videos.

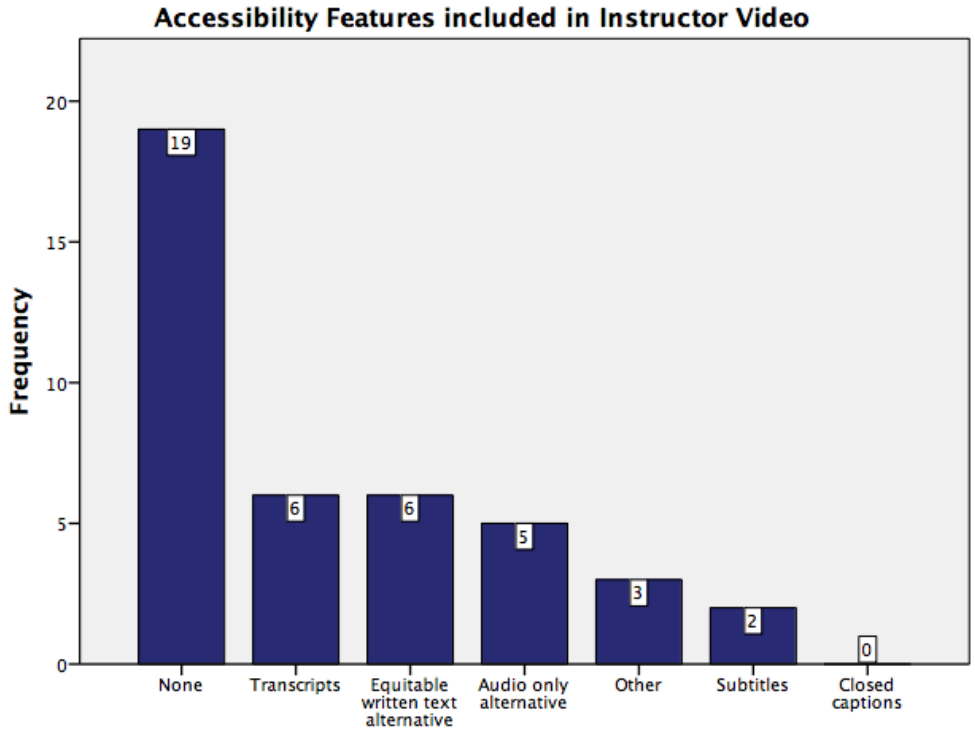

Figure 19. Accessibility features reported used in instructor-created video.

Instructors were asked to describe how (or if) students were able to interact with the videos by responding to them in some form. A frequency analysis indicated that 44.7% (*n*=17) of instructors reported that students were able to respond to the videos if they chose to, 31.6% (*n*=12) required students to respond, and 23.7%

(*n*=9) indicated that students were not able to respond. Looking at the overall production value of the instructor-created video the majority of respondents (55%, *n*=21) rated their video as having "moderate production value" in which the video was near a professional level while only 15.8% (*n*=6) rated their video as high production value having professional level quality.

Open Ended Reflections

To capture the voice of the respondents, this study included four open-ended reflection questions in the anonymous survey. The open-ended questions were placed at the end of several sections of the survey (Appendix A) including the section on feelings on the use of video, self-efficacy of teaching, technology and video, instructor-created video section, and a general final reflection question at the end of the survey. The responses to the reflection questions provided further insight into how the respondent felt in their own words, which was valuable when interpreting the results of this study in Chapter 5. Each open-ended reflection section was categorized based on the five research questions presented in this study. The full set of reflection responses can be seen in Appendix B.

The first reflection question (Q6.6 as shown in Appendix A) asked; looking back over your online course experience, was there a specific use of video that stands out as the most useful/beneficial? This optional question received 35 responses from participants. The full set of responses is included in Appendix B, where they have been organized by question, and relevance to the research questions. The faculty voices captured in these responses convey the complexity

and ambivalences felt as they seek to integrate video in their online courses. For example one instructor wrote,

> Hans Rosling's TED talks on world population growth trends have been very helpful to dispel myths and stereotypes in my courses because of the outstanding use of visual aids to explain the data much more effectively than any reading I've found. In particular, Religion and Babies and also Global Population Growth Box by Box. (RQ 1, 2, 3).

Another instructor identified both benefits and challenges to using video in their course in their reflection when they stated:

> I think video is a great way to engage online and in classroom. 3rd party videos can often present information in an interesting way. Students also share a lot of videos in the discussions. I would like to use videos more often, however, I've found that the mouth often doesn't keep up with the audio, plus the video is very low resolution in the announcements. If you can't really see the person's face, then it doesn't really have the impact. As a result, I often use audio comments in assignment feedback instead of video. (RQ3).

In one case it was mentioned that video is a central part of the online course as described by one faculty instructor who wrote:

> My entire course is structured around a series of interviews with a REAL client who supplies students with information so they can accomplish his goals in the marketplace. Students do parts of the project week by week. I feel these videos help create a real-world experience for students. (RQ 2, 3).

The full set of responses contains additional comments on the uses of video that instructors found most beneficial or useful in their online course.

The second open-ended reflection question (Q7.13, Appendix A) asked; is there anything else you would like to say about your own experience working with video in your online course? Twenty-one of the participants responded to this optional question about their experience working with video. Some instructors reported their perception of the value of working with video, as one instructor wrote:

> Video is very important to engage the student. It is also one of the reasons that I am particularly interested in working in the online environment. I am looking for ways to translate my 30+ years of face-to-face teaching to the video environment. (RQ 3).

Another participant identified development time and deadlines as prohibitive barriers to using video in online teaching:

> I think it was great to create and use original videos for my class, but it is very time-consuming. There are so many wonderful technologies possible, but many of my colleagues say that they DON'T use all the "bells & whistles" because the deadlines are too tight to develop courses with this kind of customization…(RQ 1, 2, 4).

Other responses indicated the desire for more training and professional development as stated by the response: “I would like more support/tools in how to develop my own professional videos for online course content” (RQ 4).

The third reflection question (Q8.13, Appendix A) asked; is there anything else you would like to share about your experience creating your own video? Given the smaller number of respondents who did created their own videos there were only five responses. One faculty respondent wrote:

> If I had more time, I would incorporate more multimedia into my screen capture videos (talking head, relevant images, b-roll) but time has been an issue. I hope to incorporate some of these changes over the summer. I also aspire to create a video introduction for each of the weekly modules, but this is merely an aspiration. I have the technical know-how to do it, it's again a matter of time as video production can be a time consuming process. (RQ 1, 4).

This response again emphasizes the importance of development time and desire to gain more professional development in the area of video technology.

The final question on the survey (Q9.1, Appendix A) asked; is there anything else you would like to add about your experiences using video in online courses or any suggestions you would make regarding support for instructors wanting to use videos in their online course? This optional question received 32 responses. Several of the responses to this question were focused on development suggestions for video use as indicated by one respondent who wrote:

> My main suggestion is that videos need to be short--if you have a lot of content that want to convey via video, break a longer video down into smaller parts. I think that student attention waivers if the video is more than a few minutes long. (RQ 2, 3).

Other respondents identified the benefit they see in the continued use of video. One respondent wrote:

> Using movies or YouTube media enhance the class, especially for this age group. They are very comfortable with visuals and are not strong readers (in general). I feel we must include videos in order to reach our students. I have just started using the min-lecture videos and they have been well received. When I have more time, I will learn more. (RQ 2).

This response echoes other responses indicating the perceived value and need for further development and time investment in creating videos. While many of the responses indicated positive uses, one respondent pointed out their doubts about the return on their investment in time to develop videos in the response:

> I used video a few times several years ago. I found that although it was very useful, it essentially became more trouble than its value. If there was a method/program/system or something in place to make creation of simple lecture videos an easy task, I would use it. (RQ 1, 4).

The complete set of open-ended reflection responses are in Appendix B. Reading through these responses all together may provide a window on the many voices and themes in discussion among instructors teaching online courses.

CHAPTER 5

DISCUSSION

The purpose of this exploratory study was to investigate faculty use and perceptions of video in online higher education courses. This chapter provides a summary of the study, discussion of the results for each research question, limitations for the study, and concludes with narratives on implications for theory, research, and practice.

Summary of the Study

The purpose of this study was to use an exploratory cross-sectional research survey to determine how instructors are using video in their online courses and their perceptions of how those videos enhance the course. Specifically, this study provided a breakdown of the types of videos used into four categories: instructor-created, third party, student-created, and synchronous video. The overarching goal of this research survey was to collect data to better understand how and why video is being used and if there are any commonly identified barriers. To explore the faculty use and perceptions of video five research questions were formulated for examination:

RQ1: How does the frequency and type of video (instructor-created, third party created, student-created, and synchronous) use vary across different online courses?

RQ2: How do instructors perceive the pedagogical value of different types of video (instructor-created, third party created) in their online course?

RQ3: How do instructors perceive the effect of online video on student engagement in their course?

RQ4: What are the key factors influencing an instructors' decision to create videos for their online course?

a. What barriers to video use do instructors report?
b. How does institutional support influence instructors' creation of online video?

RQ5: How does instructor age, experience and subject domain relate to video use in their online course?

Discussion of Results

The following section discusses the results of the survey and data analysis in terms of each research question. Overall, the results of this study suggest that the majority of instructors believe that online video increased the overall quality and student engagement in their online courses and plan to increase the amount of video used in their courses. Each of the five research questions are explored in order providing in-depth discussion on how the results of the survey data are interpreted to answer each question posed.

Research Question 1:

How does the frequency and type of video (instructor-created, third party created, student-created, and synchronous) use vary across different online courses?

Descriptive data provided the most general answer to this Research Question 1 showing considerable variability in the use of the four video categories. Third-

party video was the most common type of online video used, with 75% of instructors using third party video at least once in their course. Instructor-created videos were used by 41% of the instructors, followed by student-created video (13%) and synchronous video (8%) as the least used video type. The results indicated the relative infrequency of the other two types of video (student-created, and synchronous). The use of student-created videos, although infrequent, does occur more often in some academic units as discussed later. The limited use of synchronous video for such purposes as face-to-face discussions and office hours suggests the need to consider the relative value of synchronous meetings where students and instructors may find it difficult to schedule such meetings. One instructor commented:

> I offer to Skype with anyone in the course to get to know the participants better and to provide a platform to explain difficult concepts face-to-face. My experience now over 5 classes and around 50 students is that less than 10% are interested in doing this.

Teaching experiences similar to this experience may account for the relatively low use of synchronous video.

To better understand the data on frequency of use of the four types of video, the courses were grouped in the four major academic units. A repeated measures analysis of variance indicated statistically significant differences among the types of video used across the major academic units.

The first research question also asked how the frequency of video use varies across online courses. The results showed that the largest proportion of use was

about every two to four weeks (30.6%). The next highest proportion usage was also the most frequent of every week (19.4%) followed by almost every week (18.4%) and about every other week (14.3%). These results provided a picture of the considerable variability in the timing of use of video across the duration of the online courses. The correlational analysis revealed that there were some internal positive relationships between the frequency uses of different types of video. One of the significant relationships was between the frequency of instructor-created video and student-created video. The correlation between how frequently instructors created and used their own videos and the frequency with which they required students to create and contribute video is intriguing, possibly reflecting the instructors' belief in the value of making one's own videos and may reflect the greater perceived value of this activity in two academic units focused on communication and teaching. The other internal relationship discovered was the positive relationship between frequency of student-created and synchronous video.

Research Question 2:

How do instructors perceive the pedagogical value of different types of video (instructor-created, third party created, and synchronous) in their online course?

The second research question focused on online instructors perceptions of the pedagogical value of using instructor-created or third party videos. Overall, the online instructors' responses indicated a belief that the use of videos had positive pedagogical value in their course. An indirect measure of instructors' perception of the value of video is the finding that the frequency of use of the type of video had a significant positive correlation with the requirement that the students watch the

video. This finding is supported by several analyses that look at the use of video from multiple perspectives. One analysis that contributed to the overall positive value was the correlation that indicated significantly positive relationships between the frequency use of the type of video and the requirement level of students to watch the videos.

The data also showed the instructors' perceived pedagogical value of instructor-created videos by virtue of their reported use as either course lectures or demonstrations. The main purposes of third party videos were identified as supplemental course material (56.8%) and primary course material (40.5%). Both of these video types focused on content delivery in the online courses.

Responses revealed an overall perception that the use of instructor-created video increased course quality, student learning, social presence, and understanding of complex concepts. Instructors also agreed that third-party videos increased the overall quality of the course, student learning, and understanding of complex concepts.

Overall these findings are consistent with the results of prior research showing that the use of third party videos can enhance the learning opportunities and can provide students with a variety of perspectives on course content (Greene & Crespi, 2012). The results of faculty perceptions that using third party videos increases student learning of complex concepts supports the theoretical concept of compression of expertise (Hoffman, 2014). Other researchers have suggested that providing varieties of cases for students to view and by providing students with opportunities to interact with the video in a hypermedia setting in which they can

interact with the information as they prefer to allow for potentially deeper levels of understanding (Palincsar et al., 2007).

The perception of pedagogical value was further illustrated by some open-ended reflection responses to the survey. Support for the positive perception of the use of video can be seen in this reflection response:

> Student feedback has been exceptionally gratifying. They claim to have learned more, to have viewed movies they have seen previously in a completely new light as they analyzed the characters communication strategies, and to request to sign up for other courses I teach.

Other reflection responses mention the value of using videos to provide a new perspective or detail that can go beyond "traditional" course material. (See Appendix B.)

The findings on future plans of video use indicated the positive pedagogical value perceived by instructors. The majority of respondents indicated they plan to increase the amount of videos used in their course over the next one to two years and many also plan to include student-created videos. In all, the survey results indicated that online instructors perceived video use to have positive pedagogical value with plans to increase the use of video in future course offerings.

Research Question 3:

How do instructors perceive the effect of online video on student engagement in their course?

Instructors reported that both instructor-created and third party videos were perceived as having increased student engagement in the course. The mean

agreement that third party videos increased student engagement was higher than the agreement that instructor-created video increased student engagement in the course. The difference between the two video type categories was found to be statistically significant at the $p<.05$ level through a one-sample t-test using a 95% CI. Why third party videos were perceived as increasing student engagement more than instructor-created videos is unknown.

The main use of third party videos was identified as primary course content and supplemental course content, which was similar to the primary purpose of instructor-created video as mini lectures and demonstrations. The use of online video to supplement or accompany traditional text based course information supports the findings of previous research literature that cite using video can create a wider array of experiences that enhance overall course quality (Koumi, 2006). These findings also support research that using videos in an online course to create various activities, learning experiences, or other course related tasks increased the student's intrinsic motivation in the course (Merkt et al., 2011).

The open reflection responses further supported this finding as seen in one respondent's comment: "Third-party video. Integration of resources beyond the textbook helps to deepen the learning process. This allows for more student interaction in group discussions as well as student engagement throughout the course".

The finding that respondents perceived the use of instructor-created video increased their social presence in their course which is consistent with previous research by (Borup et al., 2012) on the use of videos to increase the social presence

in an online course and subsequent student satisfaction. The respondents also reported that the majority agreed that third party videos increased the social presence as well. It is not clear why respondents indicated third part videos increased social presence in the course. A possible explanation may be the perception of using video to make the course more "lively" even though the people present in the videos are not actually part of the course.

The majority of respondents agreed that the use of instructor-created and third party video increased the overall quality of the course, consistent with previous research on the use of video to increase social presence creating a positive effect on the perceived course quality and satisfaction (Choi & Johnson, 2005; Richardson & Swan, 2003; Rose, 2009).

This study also looked at the average length of videos used in the courses. The majority of the third party videos used averaged between 3 to 5 minutes, and majority of instructor-created videos averaged between 5 to 10 minutes in length. The reported lengths of videos used by these instructors would seem to be appropriate in view of research suggesting shorter video segments (less than 6 minutes) are more likely to increase student engagement (Guo et al., 2014; "Video Best Practices: The Center for Teaching and Learning UNC Charlotte," 2014). The repeated measures analysis of the average length of video times indicated there was no statistically significance between the type of videos and the average mean length reported by instructors. Faculty indicated that the most used video production element in their instructor-created videos was the "talking head" element of them speaking directly to the camera. This is consistent with previous research that

found the "talking head" element one of the most effective elements cited by the Guo et al. 2014 article to increase student engagement.

Research Question 4:

What are the key factors influencing an instructors' decision to create videos for their online course?

a. What barriers to video use do instructors report?
b. How does institutional support influence instructors' creation of online video?

Identifying key factors influencing an instructors' decision to create videos for their online course was the focus of this question, as well as the influence of barriers and support on video use. Of the 100 respondents, 41 reported using instructor-created video at least once in their online course. The analyses used in examining this research question drew upon the questions regarding instructor self-efficacy, combined with questions asked only of those who reported using instructor-created videos.

Instructors reported their feelings of self-efficacy in terms of their level of expertise of video technology (Table 13). Overall, faculty reported high ratings of self-efficacy on creating and sharing video links, and embedding videos into course environments. However, faculty reported lower ratings on skills that specifically focused on the creation of video. The use of instructor-created video was significantly positively correlated with video technology self-efficacy consistent with previous research on the relationship between technology self-efficacy and the likelihood that online instructors will use such technologies in their online course

(Buchanan et al., 2013; Kagima & Hausafus, 2001). While the results indicated a significant correlation between the use of instructor-created video and video technology self-efficacy, frequency of use was not correlated with video technology expertise.

Prior research indicated there is a strong correlation between how instructors feel about the use of technology and their likelihood to adapt or use the technology in their own course (Kim et al., 2013; Russell et al., 2003). The data on the perceptions of the subset of instructors who reported using instructor-created video supports these findings, as does the results discussed above for Research Question 2. The findings discussed in Chapter 2 supports the research on the correlation between how instructors feel about the technology (video) and the likelihood of implementation of that video in their online course. This finding suggests that one of the key factors in choosing to use instructor-created videos is the perception that using this type of video has a positive effect on the online course experience.

The open-ended reflection responses to the use of instructor-created videos provide a window on instructors' views about the relationship between perception of value and use:

> I use video in a number of ways in the course: 1. I record short (less than a minute) mini-lectures that generally frame a unit for the student 2. I use my iPhone to capture short (less than a minute) "expert lectures" that I add to the course 3. I have also recorded Skype interviews with experts who reinforce the material in the course or add to it.

Responses like the one above support the view that whether an instructor feels positively about the technology and the perceived pedagogical value are key factors in the decision to use video in their online course.

Barriers. Given the overall finding that instructors in online courses perceive added value from the use of video, it is important to understand these instructors' perceptions of barriers that may prevent or impede the production and development of instructor-created online videos. Online teaching is a complex task with many skill and knowledge requirements that differ from traditional face-to-face teaching environments that can be time consuming (Bolliger & Wasilik, 2009). Although instructors reported fairly high self-efficacy of using online video technology, they reported less self-efficacy when asked about more technical skill areas needed for creating videos. Specifically, faculty felt they had lower skill levels in editing video, capturing a screencast, and using the built-in video tools available in Canvas the CMS. Other research on self-efficacy using technology (Abbitt, 2011) suggests that if online faculty do not feel they have the right level of skill or knowledge to create videos, they may choose not to. Open-ended reflection questions touched on areas of desired skill development as indicated by one respondent who commented: “I welcome training on recording and editing." The lack of skill or experience becomes an identifiable barrier to producing videos in online course.

Time is also a crucial component in the development process of instructor-created videos. The majority of instructors who created their own video planned and created the videos prior to the start of the online course, though one quarter of

respondents indicated that they created videos both prior and during the facilitation of the online course. The discrepancy between those who develop videos prior to, and those who develop videos during the course suggests that helping faculty plan ahead may reduce time as a barrier to video creation.

Research comparing the reported time pressures of face-to-face and online instructors further supports the conclusion that development time is a barrier felt especially keenly by online instructors. The results of the survey indicated that instructors believe the time they invested in teaching online was significantly more versus face-to-face courses. Less than 20 percent of respondents indicated that teaching online requires same amount of time as face-to-face courses. These findings were further supported by comments left as part of the open-ended sections of the survey that encouraged respondents to leave a comment on their reflection of using video in their online course. Several respondents indicated that teaching online courses takes a significant amount of time and energy and that it would be helpful if there were some "guide" or other resource they could use. This is highlighted by one respondent's comment:

> I think more professional development is needed to teach professors how to create good quality educational videos that are centered around the learners and student learning outcomes. I had to learn how to do this on my own - reading many, many research articles, books, and professional tutorials. I think more training is needed to help others.

Other respondents also made comments they would like to have training or a "space" for new online instructors to practice using the tools and technology needed to create and share video in their online course.

Institutional support. Many higher education institutions have designated a unit, either centrally or within the various colleges, to assist instructors and programs on the development of online courses. The university in which this research survey was conducted has a centrally located Online Learning Center (OLC) that provides assistance and instructional designers to work with faculty on the development of online courses. To investigate how this support may influence the instructors' creation of video the survey collected data on how respondents felt about the support services offered, and what services were most important. The data analyses indicated that instructors reported that they received adequate support in basic course development time, instructional design resources, and technical support for Canvas (CMS). Two areas of support from the OLC that instructors reported higher levels of disagreement was with professional development, while most agreed that they did receive adequate support in this area, over a quarter of respondents disagreed. Video production assistance was another support area indicated to have been lower than desired by instructors. These findings support the previous statements that skill development and time are key barriers to creating videos identified by online instructors. The respondents indicated that although they felt they received adequate development time and resources to create the online course itself, they feel an absence in the continued

professional development to gain the skill levels desired to make instructor-created videos.

When asked to rank five areas of support, respondents indicated that course development time was the most important, followed by instructional design support, professional development in online teaching and learning, online course CMS training, and video production training. The frequency in which support was sought from the OLC is of interest when considering instructors' reported need for support. Analyses indicated that just under a third of faculty rarely seek support, 25.3% seek support less than once per term, while 40% reach out for support at least once per term or semester. Other factors of institutional support are the distance of instructors from the main campus. With an international campus presence it is not surprising that the average distance from campus for instructors is over 700 miles away. The instructors also reported that the majority either do not participate in, or are even aware of the services offered by the main campus's reflective learning community.

Instructors' responses to survey questions and open-ended questions indicated that key factors to influence their decision to use instructor-created video were: their perception of the value of adding self made videos, their level of video technology skills, and the amount of technical and professional development support they received from the university. The instructors indicated that time and skill level were the most identified barriers to using self-created videos. Instructional support was perceived as adequate in overall course development,

while instructors indicated they wanted more professional skill development in the area of video production for online courses**.**

Research Question 5:

How does instructor age, experience and subject domain relate to video use in their online course?

The data collected on age, experience, and subject domain indicated that age, experience, or subject is related to the type and frequency of video use in online courses. A strong positive relationship between instructor age and experience, which is not surprising, given that the older an individual is, the more years of teaching experience they are likely to have. What is of greater interest is the finding that the number of online courses taught for the university was also significantly positively related to the age of the instructor. One might imagine that younger instructors were more likely to be engaged in online teaching.

Types of video used. Results of the correlational and multiple regression analyses indicated that instructor-created and student-created video use was significantly related to the age of the instructor. The results of these analyses indicate a negative relationship between age and instructor-created video and student-created video. This relationship is interpreted to indicate that younger online instructors have a significantly higher relationship to the use of both instructor-created and third party videos. Similarly, the significant relationship between the number of years of higher education experience and the use of student-created video showed that younger instructors are more often ask students to create and share videos than older instructors. These results are consistent with

previous research on age and technology use that found younger instructors would be more likely to use technology (Purcell et al., 2013; Russell et al., 2003). The level of online teaching experience compared to type of video used also supports the previous research that more online teaching experience means faculty would be more likely to use technology in their course.

The subject matter of the course taught was also related to the relative use of the four types of video. The types of courses, grouped into four academic units, were significantly related to the types of videos, including the use of instructor-created video. These findings suggest that the major academic unit has a significant impact on whether instructor-created video is used in the course.

Frequency of video use over duration of the course. The reported frequency or pattern of use of the various video types in terms of how often they were used (every week, almost every week, every other week, and about every two to four weeks) indicated that there were no statistically significant relationships. Although age, experience, and course subject were found to have a significant relationship with the type of video used, the amount of video use in those courses is not significantly related.

Self-efficacy and TPACK. The TPACK framework provides a model for determining the intersection between technology knowledge, pedagogical knowledge, and content knowledge for effective teaching with technology. By examining the various self-efficacy components of the TPACK model the data provides a clear picture on the respondents' level of knowledge experience in relation to teaching their online course. Given the nature of the online course

environment and the focus of this research survey, the technology knowledge sections were split into two sections; one that examined the general technology skill knowledge of online course elements, and an additional section specifically focused on online video technology knowledge.

The survey results indicated that overall the online instructors reported strong levels of technology, pedagogical, and content knowledge. In the area of technology knowledge (TK) instructors indicated an overall average agreement that they are proficient in online technologies. Pedagogical knowledge (PK) self efficacy indicated very strong agreement reporting faculty feel they know how to teach and use pedagogical strategies to increase learning and understanding. The combination of technology knowledge and pedagogical knowledge provides insight into the self-efficacy of the respondents on using technology to facilitate the pedagogical strategies of their course. With the individual TK and PK average ratings in agreement that they have the knowledge to implement technologies that enhance the teaching and learning in their online course. Finally, content knowledge (CK) ratings averaged highly in agreement on having sufficient knowledge of their course subject and implementation strategies to develop enhanced understanding of course content.

In summary, using the TPACK model of intersecting domains and the knowledge experience for each category, the self reported answers support the previous findings on the perceptions of using video in their online course to enhance the overall quality, learning, student engagement in their course. Further, as a measure of effective use of technology in online courses, the results of the self

efficacy questions indicate that faculty feel experienced and rate themselves highly in their technological knowledge, pedagogical knowledge, and content knowledge. These findings are interpreted to indicate instructors feel they can integrate and use technology effectively in their online course.

Using a correlational analyses to investigate the relationships between instructor age, higher education experience, online teaching experience and self efficacy of technology knowledge, pedagogical knowledge, and content knowledge indicated that age and online experience has a significant relationship with certain areas of self efficacy. The results of the relationship between age and online technology knowledge support the previous research on age as a predictor of technology use from (Purcell et al., 2013) that instructors who are younger would rate themselves "more confident" in the use of new technologies than those who are older. The data collected and analyzed from this research survey indicated that each of the self-efficacy statements in the TK section had similar levels of significantly strong relationships.

Online teaching experience was found to have significant relationships with two of the statements in the pedagogical knowledge section of the survey. The areas of PK that were significantly related to online experience were the ability to adapt course material for various learning methods, and the familiarity with common student understanding or misconceptions on course material. In both cases the relationship indicated that instructors who have fewer years of online experience agreed more than those who had more experience. As there were no significant relationships between these PK statements and age, more experienced faculty may

disagree with the statement based on personal experience. Online teaching experience was also shown to have a significant relationship with the TPK statement on the adaptation of different technologies for various purposes in the course. Similar to the PK statements, this statement also indicated that instructors with fewer years of experience in online teaching are more likely to agree with this statement than those with more experience. This result supports the research on technology use and experience (Russell et al., 2003) in which the results indicated that teachers with less experience indicate they are more confident in using technology than those with more years of experience.

Limitations of the Study

This exploratory research survey investigated the higher education faculty uses and perceptions of video in their online course. While this study was able to collect data on uses and perceptions to further the understanding of video use in online courses, it is not without limitations. First and foremost, one of the fundamental limitations of this study was data collection on instructor perceptions. The perceptions of the respondents constitute a collection of feelings or thoughts reported by the instructors and do not contain any direct observations. For example, the perceptions on pedagogical value and effect on engagement report only what the instructors thought or felt based on their experience, there was no measurement instrument or data collection on whether or not there actually was measurable pedagogical value or if the use of videos actually increased student engagement in the course. Further, this study only asked faculty to self-report their

video use, there was no metadata collected from the course management system to verify the type or frequency of video use in the online courses.

In addition to the fundamental limitation of capturing instructor perceptions, this research study was conducted as a single stage cross-sectional survey at one university, using participants (n=100) from only one academic year (2013 – 2014). Therefore any generalizations of the findings and results of this study to the larger population of online higher education faculty must be done with caution. The final sample size of the study was large enough to meet the minimum sample size based on the Table for Determining Minimum Returned Sample Size for a Given Population Size for Continuous and Categorical Data (Barlett et al., 2001) but was lower than anticipated and resulted in a response rate of 22.3%.

Another limitation of the study was due to the purposive sampling for the survey and the potential for self-selection and unknown bias of the instructors into the sample population representing a non-random sample. In terms of this study it may be the case that the highly positive use and perceptions of video in online courses was a result of sample bias of faculty that self selected into the study due to personal feelings or interest in the survey topic of use of video in online courses. Because of the unknown bias in the sample, caution must be taken when generalizing the results of this study to the larger population of higher education online instructors.

Additionally, the respondents were primarily adjunct proportion of instructors, which is not unusual in many institutions, but does limit generalizability to other institutions that do not share a similar faculty appointment profile.

Another limitation related to the sample population is the type of data collection. The research instrument relied upon survey participants to supply self-reported retrospective answers about their online teaching experience. The reliance on self-reported answers supports the limitation of generalizability of the results because at no time during the study was direct data collected from the actual online courses, and so there was no mechanism in place to verify the existence or frequency of any form of video.

The use of a custom survey instrument to collect the data on video use and perceptions means that the instrument lacks an established validity and reliability. The survey instrument was, however developed by using a mixture of components from existing survey on teacher self efficacy (Schmidt et al., 2009) along with newly created survey items geared specifically towards collecting data to answer the research questions. The focus on the four categories of video type used throughout the survey may be seen as either a contribution to the research literature, or as a narrowing of focus that limits generalization. With only four categories described it is entirely possible instructors misinterpreted the descriptions of third party videos. Third party video category is inherently the most vague video category as it encompasses all video not created by or for the course specifically. Therefore, respondents may have felt unsure about how to classify "third party" videos based on their experience, the definition used in the survey may not have felt accurate to individuals and therefore may have contributed to limitations on how participants self-reported their answers to survey questions.

In summary, caution should be taken when generalizing the results and findings of this exploratory research survey on the use and perceptions of video in online courses. With the limitations in mind, the study does provide a view of how videos were being used by higher education instructors in online courses in a large liberal arts university in the United States during the 2013-2014 academic year. Future studies utilizing larger sample populations with refined and validated instruments from multiple institutions it may shed light on the generalizability of this study.

Implications for Theory and Practice

This exploratory research survey gathered data on faculty use and perceptions of video in online courses. This research study posed five research questions looking at the frequency and type of videos used, how instructors perceive the pedagogical value, the effect of video on student engagement, identification of key factors of video use, and relationships between instructor age, experience, and subject domain. The results of this study indicated high levels of use of video in online courses and a generally favorable view of the use of video by instructors. The results also have implications for theory and practice.

Implications for Theory

The results of this study support the use of the TPACK Framework to better understand the relationship between technology and teaching (Mishra & Koehler, 2006). This relationship is especially critical to examine in the online learning environments as the pace in which new online tools and technology are available is constantly in transition. With strong continued growth in the commercial sector of

online technologies, online faculty and courses will have many new tools in which they can evaluate to determine if it can be used to enhance the course.

The results also supported previous research that several of the areas investigated in the self-efficacy portion of the survey developed from (Schmidt et al., 2009) on that there is a strong relationship between self-efficacy of online technology and age and online teaching experience. It would therefore be valuable to the higher education community for researchers, instructional designers, and practitioners to continue research into instructors' self-efficacy in technology and teaching through the use of the TPACK framework. Research studies implementing TPACK have often focused on K12 and pre-service teachers, but higher education instructors may also benefit from increased research into the application of TPACK in teaching and learning environments.

Implications for Practice

Video is a technology that continues to increase in use as an online Internet based medium (Purcell, 2013). As higher education institutions look to incorporate this technology into their courses to enhance the learning environment to meet the expectations of students it will become increasingly important to understand how video can be used effectively to enhance the course experience. The process of making instructor-created video is time consuming and often instructors feel they do not have the skills needed to create high quality videos. In the professional video production industry there are many guidelines and "best practices" that have been employed for many years to maximize the aesthetic and captivate the viewer

attention by using tested and tried production methods that have shown over time to be effective.

The crossover of higher education faculty and professional video production is limited and video production skills as seen in this study are self reported as "novice" leaving much room for future skill and knowledge development. Some universities have invested in publishing a "guide" or other "quick tips section" on video production ("Best Practices, Video," 2014, "Video Best Practices: The Center for Teaching and Learning UNC Charlotte," 2014; Brunvand, 2010) which is helpful in providing some useful video production information to faculty who may not have the production background or any formal technical training but still leaves much of the process up to faculty to figure out on their own.

The results of this study show that instructors are looking for more training on video production, and more guidance on how to utilize the video technology to get the most return on time invested. Instructors reported that they feel the time invested in an online course is much higher than a traditional face-to-face course and so the development of a video technology guide for online course video could help promote effective use of video to enhance online learning. The results of this study support the need for an "Online Video Best Practices" guide that instructors could use (regardless of subject discipline) to bridge the professional knowledge gap between video production practices and content knowledge expertise. Some instructors have instructional designers or perhaps centralized online learning support to assist with video production and course development yet many are on their own to learn, develop, and incorporate video into their online course. This

study also showed that instructors were unaware of online teaching resources available through the university in which the survey was conducted, suggesting the need to better communicate with instructors about the support available.

One of the most important findings from this study was the rich diversity in video use across various academic disciplines. Understanding that various forms of video use may be better suited for different academic disciplines can be valuable information for university administration and support to use in developing institutional support and professional development for online teaching. Using the findings of this study, previous research, and future studies, an institution may be able to develop specific professional development programs focused on video production needs for the various academic units. Through the development of an online technology guideline the university may be able to work towards increasing the perceived value and reputation of their online courses as a competitive advantage in the growing online education space.

Finally, this study provides a snapshot of video use across online courses from one academic year. Online technology will surely continue to develop and change over the years to come and understanding how to evaluate the current technology and its uses in enhancing online education will continue to be of keen interest in online higher education. As new technologies come and go, the continued desire to effectively enhance online learning through technology will mean a continued effort to study and understand the relationship between technology and learning.

APPENDICES

APPENDIX A

Survey Instrument

FACULTY USE AND PERCEPTIONS OF VIDEOS IN ONLINE COURSES
ONLINE SURVEY

The following survey has been exported from the online survey tool Qualtrics in Microsoft Word format for inclusion in the appendix. All university identification has been removed.

Q1.1 Introduction My name is Sean M. Leahy, Head of Department of Media Communications at [university]. I am conducting research on faculty use and perceptions of video in online courses and I want to invite you to share your experiences and thoughts on the use of video in your online courses. You have received this invitation to participate in this research study because you have been identified as an instructor of an online course during the 2013-2014 academic year at [university]. Your participation in this short anonymous research survey is greatly appreciated. The focus of this survey is to obtain information on your perceptions and use of video in your online course(s). The purpose of this study is to gain an understanding of what types of videos were used, how they were used, and how you feel about the use of these videos. By participating in this study you will help provide valuable information about the use and perceptions of video in online course settings. The information gathered in this anonymous research study will be made public though subsequent publication of the research findings. Thank you for your participation!

Sincerely,
Sean M. Leahy
Head of Department of Media Communications
[University]

Q2.1 Research Survey Participant Consent
Thank you for your interest in this research study. The goal of this study is to increase the knowledge about the use of video in online courses. You are being asked to participate in this study by completing an anonymous online survey, which will take approximately 10-15 minutes to complete. You will be asked several questions about your online course and the video (if any) that was used in the course, in addition to some basic demographic questions. There are no obvious or foreseeable physical, legal or economic risks associated with participating in this study. You do not have to answer any questions that you do not wish to answer. Participation in this study does not guarantee any beneficial results to you. There is no incurred cost to participate in this study, nor will there be any compensation for your time. However, by answering the questions you may gain a better understanding of your own use of video in online courses. Your participation in this study is completely voluntary and you have the right to discontinue your participation and quit at any time. You have the right to refuse to answer any questions without penalty. You will be informed of any significant findings that develop during the course of the study that may influence your willingness to

continue to participate in the research. Your privacy will be protected to the maximum extent allowable by law. No personally identifiable information will be reported in any research product or publication. Only trained research staff within the School of Communication will have access to your responses. Within these restrictions, results of this study may be published or presented. This is a research study being conducted by Sean M. Leahy, Head of Department of Media Communications at [university] in association with the [university]. If you have any questions or concerns about this study you can contact Sean Leahy via email at [email]. If you have any questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the [university] Institutional Review Board at [phone umber], or email [email address] or regular mail at [university IRB address]. Alternatively you may also contact [university] Human Research Protection Program at [phone number], or email [email address] or regular mail at [University IRB address].

Your participation will be highly valued and appreciated. However, if you do not wish to continue you can answer "No" below or simply leave the survey page. You indicate your voluntary agreement to participate in this research and have your answers included in the data set by completing and submitting this online survey.

Q2.2 Consent and Participation

- ❍ Yes, I will participate.
- ❍ No, I will not participate.

If No, I will not participate. Is Selected, Then Skip To End of Survey

Q3.1 Background Teaching Information
If you have taught more than one online course during the 2013 - 2014 academic year, please choose one course in particular you have taught in which you incorporated video (or attempted to) to simplify your experience through this online anonymous survey. Please keep this same course in mind as you answer the remaining questions throughout the survey.----------

Q3.2 Teaching different levels of undergraduate and graduate courses often involves different approaches. For the purpose of this survey, please select the course level that represents the online course you have in mind. Online Course Level

- ❍ 1000 to 2000 level course
- ❍ 3000 to 4000 level course
- ❍ Graduate level course

Q3.3 Please select the course code that represents the online course(s) that you have in mind for this survey.
(Table List of all course codes offered by university: too large to fit)

Q3.4 How many years have you been teaching at the higher education / university level?

Q3.5 How many years have you been teaching online courses in higher education?

Q3.6 How many times have you taught an online course specifically for [university]?

Q3.7 Did you teach any face-to-face courses for [university] during the 2013 - 2014 academic year? If so, please mark all campus types that you taught at.

- ❑ Main campus
- ❑ Metropolitan campus location
- ❑ Military campus
- ❑ Corporate campus
- ❑ European international campus
- ❑ Asian international campus
- ❑ African international campus
- ❑ I did not teach any face-to-face courses
- ❑ Other _____

Q3.8 How often do you visit the main [university] campus in [location], USA?

- ❍ I have never visited
- ❍ About once per year
- ❍ About once per month
- ❍ About once per week
- ❍ Daily

Q3.9 Please estimate your distance from the main campus (in miles).

Q3.10 What is your highest level of completed education (degree)?

- ❍ Associate's degree (e.g. AA, AS, AE,)
- ❍ Bachelors degree (e.g. BA, BS,)
- ❍ Masters degree (e.g. MA, MS, MBA,)
- ❍ Doctoral degree (e.g. PhD, MD, EdD, JD,)
- ❍ Other _____

Q3.11 Please indicate your type of instructor appointment during 2013 - 2014 academic year at [university].

- ❍ Full time faculty instructor
- ❍ Adjunct faculty instructor
- ❍ Other _____

Q3.12 Please indicate your gender.

- ❍ Male
- ❍ Female

Q3.13 In what year did you graduate from high school? (please enter entire year eg.1984)

Q4.1 Types of Video Used in Online Course This section of the survey is focused on the types of videos used based on the following categories: third party videos, Instructor-created videos, student-created videos, and synchronous video. The definition of each type of video as it relates to this study are provided below. Again, please be sure to answer the questions with the online course you chose to have in mind for this survey. Third-party: Videos created by individuals or organizations outside of the course (e.g. TED talks, Lynda.com, Atomic Learning, music videos, Hollywood movies, television shows, etc.) Instructor-created: Videos created by (or of) you the instructor of the course (e.g. self recording, recorded lectures, interviews, screencasts/demonstrations, etc.) Student-created: Videos created by the students of the course (e.g. self recording, recorded skits, interviews, screencasts, etc.) Synchronous: Videos that required live real-time interactions between the faculty and one or more student (e.g. Skype chats, Google Hangout, Webinar events, etc.) ----------

Q4.2 Please indicate which of the following types of video you have used at least once during the online course you selected to have in mind for this survey. (Select all that apply).

- ❑ Third-party video: (e.g. TED talks, Lynda.com, music videos, Hollywood movies, television shows, etc.)
- ❑ Instructor-created video: (e.g. self recording, recorded lectures, interviews, screencasts/demonstrations etc.)
- ❑ Student-created video: (e.g. recorded presentations, interviews, screencasts, etc.)
- ❑ Synchronous (live) video: (e.g. Skype chats, Google Hangouts, Webinars, etc.)
- ❑ I didn't use any videos at all in my online course.
- ❑ Other _____

If I didn't use any videos at ... Is Selected, Then Skip To End of Block

Q4.3 Please indicate the frequency in which you used each type of video below in your online course.

	Frequently used	Used several times	Used once or twice	Never used
Third-party video	❍	❍	❍	❍
Instructor-created video	❍	❍	❍	❍
Student-created video	❍	❍	❍	❍
Synchronous (live) video	❍	❍	❍	❍

Q4.4 Please indicate how you included the video used in your course (including all types of video: instructor-created, third-party, student-created, or synchronous video).

	Frequently	Occasionally	Not at all
I linked to videos on other sites (YouTube, Lynda.com, Vimeo, etc.)	❍	❍	❍
I embedded videos from video sources (YouTube, Vimeo, etc.) into Canvas	❍	❍	❍
I uploaded videos directly to course management system (Canvas)	❍	❍	❍
Other	❍	❍	❍

Q4.5 Please indicate whether or not videos used in your course were required (mandatory) or supplemental (optional):

	Required	Optional	Not specified
Third-party videos	❍	❍	❍
Instructor-created videos	❍	❍	❍
Student-created videos	❍	❍	❍
Synchronous (live)video	❍	❍	❍
Other	❍	❍	❍

Q4.6 If you used instructor-created video (e.g. self recordings, recorded lectures, screencasts, demonstrations, etc.) in your course, what is the approximate average time length of those videos?

- ❍ less than 3 minutes
- ❍ 3 to 5 minutes
- ❍ 5 to 10 minutes
- ❍ 10 to 15 minutes
- ❍ more than 15 minutes
- ❍ more than 30 minutes
- ❍ more than 60 minutes
- ❍ I didn't use instructor-created videos

Q4.7 If you used third-party video (e.g. TED Talks, Lynda.com, Atomic Learning, music videos, news clips, etc.) in your course, what was the approximate average time length of these videos?

- ❍ less than 3 minutes
- ❍ 3 to 5 minutes
- ❍ 5 to 10 minutes
- ❍ 10 to 15 minutes
- ❍ more than 15 minutes
- ❍ more than 30 minutes
- ❍ more than 60 minutes
- ❍ I didn't use third-party videos

Q4.8 If you used student-created video did you set a time limit for their videos? If so please indicate that time limit (in minutes).

- ❍ less than 3 minutes
- ❍ 3 to 5 minutes
- ❍ 5 to 10 minutes
- ❍ 10 to 15 minutes
- ❍ more than 15 minutes
- ❍ more than 30 minutes
- ❍ more than 60 minutes
- ❍ I didn't use student-created videos

Q4.9 If you used synchronous (live) video, how long would you say those synchronous video sessions lasted? (in minutes)

- ❍ less than 3 minutes
- ❍ 3 to 5 minutes
- ❍ 5 to 10 minutes
- ❍ 10 to 15 minutes
- ❍ more than 15 minutes
- ❍ more than 30 minutes
- ❍ more than 60 minutes
- ❍ I didn't use synchronous (live) video

Q5.1 How Videos are Used in Online Courses
For this section of the survey you will be asked to report on HOW you used the different types of videos in your course. Please continue to answer the following questions with the online course you have had in mind throughout this survey. --
---

Branched Logic: Visible only if Q4.2 indicated use of third party videos.

Q5.2 What is the primary purpose of the third-party video(s) used in your online course?

- ❍ Primary course content
- ❍ Supplemental content
- ❍ Inspirational content
- ❍ Entertainment
- ❍ Other _____

Branched Logic: Visible only if Q4.2 indicated use of third party videos.

Q5.3 How did you find or source the third-party video(s) used in your course? (select all that apply)

- ❑ I searched specifically for the video(s) used.
- ❑ I discovered the video(s) when researching the topic, lesson, or unit.
- ❑ A colleague recommended it.
- ❑ I had used the video(s) in previous courses.
- ❑ It was recommended by an instructional designer working on the course.
- ❑ It was a companion to the course textbook materials.
- ❑ Other _____

Q5.4 Please indicate how video (of any kind) was used to deliver Course Content in your online course. Mini lecture: a short component or segment of a lecture topic. Full lecture: a full length continuous video lecture of a topic. Screen Recording: a screen capture of computer screen. Short video segment: a component or segment of a produced video (e.g. documentary, news report, film, etc.). Full video segment: a full length video production (e.g. film, television show, documentary, etc.).

	Frequently used	Used several times	Used more than twice	Used once or twice	Never used
Mini lecture	❍	❍	❍	❍	❍
Full lecture	❍	❍	❍	❍	❍
Screen recording	❍	❍	❍	❍	❍
Short video segment	❍	❍	❍	❍	❍
Full video segment	❍	❍	❍	❍	❍
Other	❍	❍	❍	❍	❍

Q5.5 Please indicate how video was used as a Communication Tool with students in your online course.

	Frequently used	Used several times	Used more than twice	Used once or twice	Never used
Course introduction	❍	❍	❍	❍	❍
Introduction to instructor	❍	❍	❍	❍	❍
Introduction to assignments or modules	❍	❍	❍	❍	❍
Student feedback	❍	❍	❍	❍	❍
Class discussions	❍	❍	❍	❍	❍
Office hours (virtual)	❍	❍	❍	❍	❍
Other	❍	❍	❍	❍	❍

Q5.6 How often were videos (of any kind) used in your online course?

- ❍ Every week
- ❍ Almost every week
- ❍ About every other week
- ❍ About every two to four weeks
- ❍ Never

Q5.7 Which of the following online video platforms did you use to share or embed videos for your online course? Mark all that apply.

- ❑ YouTube
- ❑ Vimeo
- ❑ Lynda.com
- ❑ Atomic Learning
- ❑ Netflix
- ❑ Hulu
- ❑ Facebook
- ❑ Canvas built-in video feature
- ❑ Other _____

Q5.8 Please indicate if and how students were required to create video(s) for your online course.

	Required	Optional	Not Required
Student introduction	❍	❍	❍
Part of assignment or project	❍	❍	❍
Discussion post	❍	❍	❍
Other	❍	❍	❍

Q5.9 Did you use any synchronous (live) video conferencing tools? (mark all that apply)

- ❑ Skype
- ❑ FaceTime
- ❑ Google Hangout
- ❑ Vidyo
- ❑ WebEx
- ❑ Other _____

Q6.1 Feelings on Video Use in an Online Course

For this section please continue using the same course you have had in mind throughout this survey to answer the questions based on your feelings on the use of video in your online course. Term definitions: Social presence - the degree to which interactions approximate the next best experience of interacting with other course members (instructor and/or students) compared to face-to-face interactions. Student engagement - the likelihood that a student will take an action in the online course after viewing a video (e.g. take online quiz, contribute to discussion forums, comment on video, etc.). Redundancy - in this context it is defined as the content redundancy in your online course in any form text, audio, video, etc. Split attention - the learning effect that requires the learner to split their attention between more than one similar form of information display (e.g. text, video, image, etc.).

Q6.2 The use of instructor-created videos (e.g. self recording, recorded lectures, interviews, screencasts/demonstrations, etc.):

	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
Increased the overall quality of the course	❍	❍	❍	❍	❍
Increased student learning in the course	❍	❍	❍	❍	❍
Increased social presence in the course	❍	❍	❍	❍	❍
Increased student engagement in the course	❍	❍	❍	❍	❍
Increased understanding of complex topics	❍	❍	❍	❍	❍
Reduced redundancy in the course	❍	❍	❍	❍	❍
Reduced split attention in the course	❍	❍	❍	❍	❍

Q6.3 The use of third-party videos (e.g. TED talks, Lynda.com, Atomic Learning, music videos, Hollywood movies, television shows, etc.):

	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
Increased the overall quality of the course	❍	❍	❍	❍	❍
Increased student learning in the course	❍	❍	❍	❍	❍
Increased social presence in the course	❍	❍	❍	❍	❍
Increased student engagement in the course	❍	❍	❍	❍	❍
Increased understanding of complex topics	❍	❍	❍	❍	❍
Reduced redundancy in the course	❍	❍	❍	❍	❍
Reduced split attention in the course	❍	❍	❍	❍	❍

Q6.4 How do you feel about the use of synchronous (live) video in your online course?

	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
Useful for virtual office hours	❍	❍	❍	❍	❍
Useful for delivering course content	❍	❍	❍	❍	❍
Useful for group projects	❍	❍	❍	❍	❍

Q6.5 In general how would you estimate the amount of time invested in teaching online compared to teaching face-to-face?

- ❍ Significantly more time
- ❍ Slightly more time
- ❍ About the same amount of time
- ❍ Slightly less time
- ❍ Significantly less time
- ❍ I don't teach face-to-face courses

Q6.6 Looking back over your online course experience, was there a specific use of video that stands out as the most useful/beneficial (e.g. to the course, to students, to you as the instructor, etc.)? If so, please describe this use of video and why you found it beneficial. If none, skip to the next question.

Q7.1 Self-Efficacy of Online Video Tools

Self-efficacy is defined as the extent or strength of an individuals beliefs of their own ability or skill to complete a task or reach a goal with technology. This section of the survey will focus on the technical methods used to incorporate video in your online course and how you would rate your technical skills and knowledge in using technology to enhance learning.

Q7.2 Technology is a broad term that can be interpreted in many ways, for the purpose of this study please keep your online course in mind and answer the following questions about the use of digital online technologies (e.g. web browsers, content management systems, discussion forums, blogs, wikis, online video platforms, etc.)

	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
I solve my own technical issues.	❍	❍	❍	❍	❍
I learn about new technology on my own.	❍	❍	❍	❍	❍
I stay up-to-date on the latest technology.	❍	❍	❍	❍	❍
I experiment with new technologies.	❍	❍	❍	❍	❍
I am an advanced user of online tools.	❍	❍	❍	❍	❍

Q7.3 Using your online class you have had in mind for this survey, please answer the following questions on how you choose technology to work with your course pedagogy.

	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
I use technologies that enhance my teaching in the course.	❍	❍	❍	❍	❍
I use technologies that enhance the students' learning in the course.	❍	❍	❍	❍	❍
I use technologies that enhance the course content.	❍	❍	❍	❍	❍
I adapt technologies for different purposes in the course.	❍	❍	❍	❍	❍
I carefully evaluate the technology used in the course.	❍	❍	❍	❍	❍

Q7.4 Again with your online course in mind for this survey, please answer the following questions on how you dealt with pedagogical aspects of your online course.

	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
I know how to assess student performance.	❍	❍	❍	❍	❍
I am able to adapt my teaching methods to better match student understanding.	❍	❍	❍	❍	❍
I can adapt course materials/delivery for various learning styles.	❍	❍	❍	❍	❍
I am familiar with common student understandings or misconceptions.	❍	❍	❍	❍	❍
I organize my course to avoid confusion or inconsistency.	❍	❍	❍	❍	❍

Q7.5 Please answer the following questions on how you feel about the content area of your online course.

	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
I have sufficient knowledge in the course content area.	❍	❍	❍	❍	❍
I have various methods and strategies of developing understanding of course content.	❍	❍	❍	❍	❍
I evaluate the course content to ensure it's up-to-date.	❍	❍	❍	❍	❍

Q7.6 Please rate your own level of knowledge and expertise on the various methods of incorporating video in your online course.

	Expert	Advanced	Novice	Beginner	N/A
Creating and sharing a video hyperlink	❍	❍	❍	❍	❍
Embedding a video in course content	❍	❍	❍	❍	❍
Filming and uploading my own video	❍	❍	❍	❍	❍
Editing my own video content	❍	❍	❍	❍	❍
Capturing my own screencast	❍	❍	❍	❍	❍
Using Canvas built-in video recording	❍	❍	❍	❍	❍

Q7.7 When developing your online course, you felt that you had adequate support from the university in:

	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
Course development time	❍	❍	❍	❍	❍
Instructional design resources	❍	❍	❍	❍	❍
Technical support for Canvas	❍	❍	❍	❍	❍
Pedagogical resources for online teaching & learning	❍	❍	❍	❍	❍
Professional development	❍	❍	❍	❍	❍
Video production assistance	❍	❍	❍	❍	❍

Q7.8 Please rate the following areas of support in order of most important (1) to least important (5) that you would like to have for the development of using video in your online course. (please enter each value only one time to rate the following 1-5).
_____ Course development time
_____ Professional development in online teaching & learning
_____ Video production training (shooting & editing
_____ Online course management (Canvas) training
_____ Instructional Design Support

Q7.9 Did you use any mechanism to monitor the student views of video in your online course?
- ❑ I used the Canvas built-in monitor to check student views of videos
- ❑ I used view counts on video host site to estimate student views (e.g. YouTube, Vimeo view counts)
- ❑ I used a survey or quiz to see if students watched the videos
- ❑ I did not check to see if students viewed videos or not

Q7.10 How do you see your use of video changing in the next 1 to 2 years? (mark all that apply)

- ❑ I would add more videos to the course
- ❑ I would require students to contribute videos to the course
- ❑ I would not change the amount of videos in the course
- ❑ I would not use video at all
- ❑ Other _____

Q7.11 How often do you seek help or support for your online course from the Online Learning Center?

- ❍ More than once a term/semester
- ❍ Once each term/semester
- ❍ Less than once per term/semester
- ❍ Rarely
- ❍ Never

Q7.12 Are you a member of the Reflective Teaching Community hosted by the Faculty Development Center in [location]?

- ❍ Yes
- ❍ No
- ❍ I have not heard of it before

Q7.13 Is there anything else you would like to say about your own experience working with video in your online course?

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.1 Instructor Created Video Y

ou have indicated that you used an instructor-created video in your online course, this next section is specifically geared toward gaining a deeper understanding of the processes and thoughts you have on your own experience creating and using video. This section will help provide insights into the decisions made by instructors when choosing to create their own video. Your participation in this section is greatly appreciated._____

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.2 Please indicate the primary use of instructor-created video(s) in your online course.

- ❍ Mini lectures or demonstrations.
- ❍ Full-length lectures or demonstrations.
- ❍ Communication updates
- ❍ Course related instructions
- ❍ Entertainment
- ❍ Other _____

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.3 Please indicate all of the items that you include in your instructor-created videos. (Mark all that apply)

- ❑ Talking head (just you on camera)
- ❑ Environmental shots (you and your surroundings on camera)
- ❑ Screencast (e.g. recording of your computer screen)
- ❑ Presentation slides
- ❑ Audio (other than your voice)
- ❑ Images
- ❑ Other videos

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.4 Do you make materials (e.g. PowerPoint's, audio recordings, images, files, etc.) used in your instructor-created videos available for students to download or access (when applicable)?

- ❍ Always
- ❍ Sometimes
- ❍ Never

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.5 How do you plan the instructor-created videos you create during the course?

- ❍ All videos are planned and created in advance of the start of the course.
- ❍ All videos are planned and created during the course.
- ❍ Videos are planned and created both in advance and during the course.
- ❍ Videos are only created on an "as needed" basis during the course.
- ❍ Other _____

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.6 When creating video(s) for your course are you able to reuse any of the videos created in future course terms/semesters?

- ❍ Each video is only created for the current course term/semester.
- ❍ Videos created can be used in future course offerings of the same course.
- ❍ Videos created can be used in any future course taught by me (even different courses).
- ❍ Other _____

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.7 Are students able or required to respond to any of your instructor-created videos?

- ❍ Students are able to respond to videos if they choose.
- ❍ Students are required to respond to videos.
- ❍ Students are not able to respond to videos.

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.8 Please indicate any of the following video accessibility features used in instructor-created videos. (mark all that apply)

- ❑ Subtitles
- ❑ Transcripts
- ❑ Closed captions
- ❑ Equitable written text alternative
- ❑ Audio only alternative
- ❑ None
- ❑ Other _____

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.9 How would you rate the quality of the video you created for the course?

- ❍ Highest possible quality exceeding expectations
- ❍ Good quality meeting expectations
- ❍ Poor quality failing to meet expectations
- ❍ Unusable and will not use again
- ❍ Other _____

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.10 When creating your videos how much consideration is given to your audience?

- ❍ The audience is the central consideration of the video production.
- ❍ The audience is important, but the content or subject matter is the central consideration for video production.
- ❍ I don't think about the audience specifically, I just create the video.
- ❍ Other _____

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.11 When creating your own videos what kinds of support do you utilize? (mark all that apply)

- ❑ Online tutorials
- ❑ Professional development groups
- ❑ Online Learning Center (OLC)
- ❑ Colleagues
- ❑ Teaching assistants
- ❑ I don't utilize any support
- ❑ Other _____

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.12 How would you rate the overall production value of the video you created for the course?

- ❍ High production value with strong visual elements, professional level.
- ❍ Moderate production value, could have used stronger visual elements, almost professional level.
- ❍ Low production value, amateur in appearance.
- ❍ Other _____

Branched Section: Only visible if Q4.2 Indicated Instructor-created video was selected.

Q8.13 Is there anything else you would like to share about your experience creating your own videos? If so please write about it below.

End of Branched Section

Q9.1 Reflections on Teaching Online

In this final section of the survey, please take a moment to reflect back on your online course teaching experience. Is there anything else you would like to add

about your experiences using video in online courses or any suggestions you would like to make regarding support for instructors wanting to use videos in their online courses? If so, please write about it below.

APPENDIX B

Open-ended Faculty Survey Responses

Open Ended Reflection Survey Responses

Each code (1, 2, 3, 4) corresponds to the associated research question.

Table 19

Open-ended Instructor Reflection Responses for Q6.6

RQ Code	Responses
Q: 6.6	Looking back over course experience, was there a specific use of video that stands out as the most useful/beneficial?
3	I think video is a great way to engage online and in classroom. 3rd party videos can often present information in an interesting way. Students also share a lot of videos in the discussions. I would like to use videos more often, however, I've found that the mouth often doesn't keep up with the audio, plus the video is very low resolution in the announcements. If you can't really see the person's face, then it doesn't really have the impact. As a result, I often use audio comments in assignment feedback instead of video.
2, 3	My entire course is structured around a series of interviews with a REAL client who supplies students with information so they can accomplish his goals in the marketplace. Students do parts of the project week by week. I feel these videos help create a real-world experience for students.
1, 2	Introduction to the course - including grading policies. Introduction to the professor (me, of course) as I don't see my students face-to-face.
2, 3	Students could "meet" important people in the field, not just read about them.
2	To connect with students and to explain challenging concepts and expectations
2	It is beneficial to stop a video for instructor to add to content, clarify or build on talking points. This time is also very beneficial to ask and answer student questions arising from video.
1, 2	Videos used to explain difficult concepts are very helpful and it gives students a break from the textbook and online reading.
1, 2	Creating augmented reality projects and learning Jing
2	The video helps students who are visual learners. It helps them to see and hear the concepts and reinforces the learning process. Movie clips that I have used also show the application of the concept in a situation which is very beneficial for students.

(continued)

Table 19 (cont'd)

2	I like to create a tour of the course at the beginning of week 1 to show them how I have it organized and I create a screencast of each assignment to make sure there is no confusion as to what I expect.
2, 3	Interviews of practioners in the field.
2, 3	For me, I use video primarily to link students to interesting examples of the concepts under discussion, and for virtual office hours.
2, 3	I offered the videos to provide outside, relevant information. Students who took advantage of the videos appreciated them and provided positive feedback. Those who didn't, it's their loss.
2	Any time students can "see" what one is trying to teach it is more powerful.
1	Used a PBS video on the mentally ill in the criminal justice system. It validated the problem, which is often not recognized, with students. Used it as a lead into a weekly discussion board question.
2	Provides a means to cover the material in more detail.
2, 3	I have had a number of students write me or write on the evaluations that the Instructor video as an introduction really helped them get started in the course. Other documentaries I have used always enhance my courses--both in-class and online.
2	YouTube video on 2008 US sub prime mortgage situation was helpful.
2	My use of various video content is tied directly to the objectives of a given module or lesson. No specific type stands out for me in the abstract.
2	I used it to record a lecture during a holiday week when we had to cancel class in lieu of my normal full class lectures.
2, 3	I show a movie on the Grameen Bank. The actual content of the film is not the point, although the students seem to love learning about this process. What they must focus on is how the bank employees communicate with uneducated rural Bangladeshi women. We hen apply those communications techniques to the final project. It is an eye-opener for many students who know nothing of the developing world.

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Table 19 (cont'd)

1, 2, 3	Hans Rosling's TED talks on world population growth trends have been very helpful to dispel myths and stereotypes in my courses because of the outstanding use of visual aids to explain the data much more effectively than any reading I've found. In particular, Religion and Babies and also Global Population Growth Box by Box https://www.ted.com/speakers/hans_rosling
2, 3	The most beneficial way to use videos that I've encountered is to show the religious traditions we are learning about in practice: e.g., a short clip of a given religious ritual. Many students find these short clips engaging and opt to write about them later -- but it's also educationally important to see the discrepancies between a textbook account of practice and the way actual practitioners practice (we have several assignments designed to get at this as well).
2	Once students have mastered course content, they view a movie selected specifically for the topic (example: body language) and respond to questions designed to measure how well the student is able to apply what he or she has learned to "live" situations captured on video.
2	A previous instructor imbedded video in another online course I teach. I find these videos very helpful as a learning mechanisms for my students. They provide additional information on course concepts since students can see and hear real-life examples.
1, 2	I offer to Skype with anyone in the course to get to know the participants better and to provide a platform to explain difficult concepts face-to-face. My experience now over 5 classes and around 50 students is that less than 10% are interested in doing tis.
2	Other experts in the field providing their input on a specific topic
2	Less reading. Previously I would try to write up the information and it was difficult to assess and read. A video resolves that with audio, visual images.
3	The videos I use provide practioner insight. The student then understands how theories and rules relate to the real world.
2	Greater understanding

(continued)

Table 19 (cont'd)

2, 3	Third-party video. Integration of resources beyond the textbook helps to deepen the learning process. This allows for more student interaction in group discussions as well as student engagement throughout the course.
2	I feel the students enjoy having the option to use it for their discussions in situations when they want to be able to convey their opinion and make sure that their tone is not misconstrued. I use self-made videos in the beginning of the course to explain my expectations for the course in an effort to make things clear to the students, but I have observed that many of them will skip over it.
1	Professor vid's that define the weekly assignments and discussion threads. Video's from YouTube that interpret and explain certain elements of the course.
1	Introduction and key concepts
1, 2	I use video in a number of ways in the course: 1. I record short (less than a minute) mini-lectures that generally frame a unit for the student 2. I use my iPhone to capture short (less than a minute) "expert lectures" that I add to the course 3. I have also recorded Skype interviews with experts who reinforce the material in the course or add to it.

Table 20

Open-ended Instructor Reflection Responses for Q7.13

RQ Code	Responses
Q7.13	Is there anything else you would like to say about your own experience working with video in your online course?
3	I teach at another university who uses video as part of the curriculum. Although I am not part of those videos (faculty at main campus), I believe students benefit from hearing someone talk about the material rather than just reading material. I do believe, however, that the videos are 'dry' and could use some 'help' to make them more engaging.
1	I do use videos in my online course nor in my in-person classes.

(continued)

Table 20 (cont'd)

4	It would be helpful to faculty if a resource on best practices for incorporating video into the online classroom were available, as well as suggested strategies and an explanation of pedagogical rationale as to when using video is appropriate.
4	I welcome training on recording and editing.
4	I have a lot of students who are in foreign countries. The bandwidth in those countries makes it the use of video very problematic. China, for instance, blocks all video. Even if it were not blocked, the bandwidth is very poor making it nearly impossible o view video. Students in Afghanistan have thanked me for being sensitive to this issue. I have also personally taken classes while overseas. The video components of those classes were completely useless because of bandwidth issues. Even in the US, I teach [university] courses at Walmart. Walmart's internal security can make even PowerPoint presentations difficult. I hope this helps.
2, 4	I believe video is a valuable tool for the courses and would suggest we promote innovative ways to continue to incorporate video in the courses.
4	I designed and taught the first few online courses in International Relations. the help I received in those first years was professional, top-notch and very kind to a novice. However, I have noted that recently the online office is not as available to me as in the first years--so I do not add as many videos as I once did because getting help is more difficult. That is a shame because the help provided by [university] Online set it apart from other Universities. The program was a level above others because the faculty were more prepared to teach online and could get help to improve their courses. If, as with all other cuts, the level of help at [university] becomes limited, the online program will suffer.
4	My time is limited so I have to use my time wisely.
1, 2	I teach Camtasia (beginning and advanced), am proficient with Premiere Pro, and do video work for my full-time position at a major university - plus video work on the side. I'm still learning, but am immersed in educational videos almost on a daily basis.

(continued)

Table 20 (cont'd)

4	Students like to watch videos, but most of them are creating their own videos, nor do they seem to want to interact like that. I've had several communicate that they enjoyed my audio comments on their assignments. As far as creating short videos in Canvas I've found quality to be lacking. The videos for announcements, for example, are low resolution and really blurry, plus the timing is off with the audio. I've even used my own higher resolution recording and uploaded it with the same results.
1, 2, 4	I think it was great to create and use original videos for my class, but it is very time-consuming. There are so many wonderful technologies possible, but many of my colleagues say that they DON'T use all the "bells & whistles" because the deadlines are too tight to develop courses with this kind of customization. Also, the pay is extremely low to develop a class with original content. For example, the adjunct who taught a section of my class was paid $3,500. To develop the class, I was paid $2500. This really does not make sense.
1, 2, 4	I found it much more difficult to prepare a short introduction to myself and the course using the Canvas built-in video recording feature than I have speaking in front of a face-to-face class, as a result of which I simply gave up my original idea of trying to prepare short video lectures on the course content. Recently, however, a colleague told me that he had simply videotaped one of his lectures in a face-to-face class and posted it online, which I think is a great idea. I'd like to try that approach.
4	Adjuncts are basically on their own when it comes to technology. We aren't provided any equipment, connectivity, or training so we have to work with whatever we have or can afford. Increasing the use of technology by adjuncts would require the school to provide the necessary equipment, or access to it, in order to succeed.
4	I have learned a lot through the years, but I don't want to be an expert in this. i just want help from an expert to make it happen. I have other things to do.
4	I would like more support/tools in how to develop my own professional videos for online course content.

(continued)

Table 20 (cont'd)

1, 4	I am not using video in my courses but have used video in a leadership class where green screens were captured and implemented for short discussions. I would like to implement some of these techniques into my management courses in the future.
3	Video is very important to engage the student. It is also one of the reasons that I am particularly interested in working in the online environment. I am looking for ways to translate my 30+ years of face-to-face teaching to the video environment.
2	I am not the (mentor) for this course and do not have development rights; I only teach it. I try to modify tools and materials each semester to augment the course, but these are temporary. All courses need to be reviewed for appropriate content and methodology.
4	I took this survey with reference to the online course I've taught most recently: I was not the primary developer on that course, nor am I paid to develop or revise it, so while I invest a lot of time each term in bringing the content up to my own standards (up-to-date, no typos, questions and lectures and assignments framed in the way I prefer), I have not invested much time in recording and/or editing my own videos because there is no guarantee that they would be useful once the master course is again updated. (I do hunt up third-party video to enhance the course content; sometimes I embed clips if I anticipate using them repeatedly.) When I was paid to develop a online course several years ago, by contrast, I happily invested a lot of time in making and editing my own videos.

(continued)

Table 20 (cont'd)

1, 4	The only reason I do not have any instructor made videos in my courses is because I am nervous about it. But I know I need to get over that. I have storyboarded ideas that I want to flesh out with Camtasia this year. I know that [university] has outstanding resources for the whole technical side of creating the videos at the OLC, but I'm not sure that most (at least adjunct) instructors do. Using join.me for working through assignment problems with students in video chats has been incredibly helpful. I is very hard to talk about multi-tab spreadsheets and equations over the phone. I don't use synchronous video in my courses because my students are always spread around the globe and have crazy work schedules. The appeal of online learning for them i that they get to do it at their convenience rather than at a set time. The carefully curated videos that I use throughout my weekly course content and also in my comments in discussion serve as the most ideal guest speakers (with TED talks) or to graphically and simply convey complex ideas and concepts. Students constantly express thanks for them to break up all the reading. It creates a more engaging course. I believe it is a culturally important evolution in learning. It increases engagement, which increases knowledge and understanding. I use it in big and also very small ways (For example, if I mention a book in discussion, I'll link to the book trailer.) I know that students are clicking through and watching because of their comments in discussion. To not use video in screen-based education would ludicrous and limiting.
4	Videos can require bandwidth as well as consuming monthly download limits, not all students have campus grade Internet access and videos could be both time consuming and expensive for them.

Table 21

Open-ended Instructor Reflection Responses for Q8.13

RQ Code	Responses
Q8.13	Is there anything else you would like to share about your experience creating your own videos?
1, 4	If I had more time, I would incorporate more multimedia into my screen capture videos (talking head, relevant images, b-roll) but time has been an issue. I hope to incorporate some of these changes over the summer. I also aspire to create a video introduction for each of the weekly modules, but this is merely an aspiration. I have the technical know-how to do it, it's again a matter of time as video production can be a time consuming process.
4	Please help me.
4	I need to re-shoot all of the videos, as my expertise has improved greatly since I made them. But, there is currently no development time for me to do so.
1, 4	As I stated on the previous page, I found it very difficult to prepare even a very short introductory video, and thus gave up on the idea of preparing longer video lectures on the course content.
1, 2	I am clarifying material they already have as text in the video. I find that reinforces the importance of the text material and the students prefer to watch rather than read. I am such an amateur I don't have much sparkle in the videos - just me explaining what I want them to understand.

Table 22

Open-ended Instructor Reflection Responses for Q9.1

RQ Code	Responses
Q9.1	Is there anything else you would like to add about your experiences using video in online courses or any suggestions you would like to make regarding support for instructors wanting to use video in their online course?
2, 3	My main suggestion is that videos need to be short--if you have a lot of content that want to convey via video, break a longer video down into smaller parts. I think that student attention waivers if the video is more than a few minutes long.
1	There is a site called "TubeChop" that allows users to "chop" YouTube segments. I think this site is particularly useful for online courses, as the instructor can "chop" exactly what he/she wants from a YouTube video. This is good for the modular nature o much of online learning.
4	The school needs to provide some tools. At this time we must find all of our own technology and connectivity.
4	It would help to include video business simulations that really link the theory to the action of the subject matter.
4	Much of what I would have said I have already stated in earlier parts of this survey. I will add that any resources that might be developed in support of our online instructors would also be of great benefit to faculty who teach in face-to-face environments as well.
2, 3	Most videos are value added to explain a concept or thought to students. As long as they are short (5-15 mins) they will be viewed by most students. Longer videos lose their attention.
4	Give new online instructors the opportunity to practice embedding videos prior to teaching online.
4	Time is a major factor in making video viewing voluntary.

(continued)

Table 22 (cont'd)

2, 4	Online teaching is different...not different bad...but different. The student is often different with different needs. One cannot teach online students as one does face-to-face students. Also, the time commitment is more, not less. They need our presence ally with "high touch" so they feel what they might feel in the traditional classroom but without hovering or being too intrusive to allow free communication, dialog, and sharing.
1, 2	I support the use of video in online courses. Personally, I want to include more instructor and student videos in the course in the coming years.
2	I suspect a common thought is, "Why should I reinvent the wheel? If there is a video out there already made to show what I want to show, why should I bother to make one?" My response to this is that students will learn better and differently (in a good way) if they see their actual instructor on screen and know the instructor made the content, rather than just being given a link. It makes it more authentic to the students. They respect the instructor more for having created the video rather than just using someone else's material. Professional quality video counts for less than personally made video by the instructor.
4	Need to work with adjunct instructors well in advance.
4	Face-to-face training sessions would be helpful!
2	Videos help me reach all learning styles so I'm able to reach more students!!
1	I do like teaching online, and have only begun using videos in the last 2-3 years, even in a course I've taught for much longer. The Online Learning team is essential.
4	I think more professional development is needed to teach professors how to create good quality educational videos that are centered around the learners and student learning outcomes. I had to learn how to do this on my own - reading many, many research articles, books, and professional tutorials. I think more training is needed to help others.
3	Video does enhance the student experience in online courses, as well as on-ground courses.

(continued)

Table 22 (cont'd)

2	My course is aligned with the face course of the same name. It is a technical course and I do not use video in the face course, so I would not deviate for the online. This is NOT a course that a video would enhance.
1, 2	Instructor video used was developed by the lead faculty at [university] and used to introduce the course. The 3rd party video was used to show a quality management concern.
4	Need to offer extra time and money to people working on classes with original videos and content. We have to be able to differentiate our courses from other online classes at other universities.
1, 2	As I stated 2 pages back, I'd like to try to videotape lectures in face-to-face classes and post them in my online classes, perhaps with some minimal editing. I also like to use video clips from third-party sources to illustrate key points, but I try to keep such clips as short and entertaining as possible. To encourage students to watch them, I like to create extra-credit exercises based on them. As for supporting instructors wanting to use videos, I'd suggest an open exchange of experience or kind of best practices exchange, where faculty are invited to describe their experiences and encouraged to post both self-made or third-party videos that worked best for them.
1, 2	The more academic the topic, the more important it is to find a way to relate it to the business environment. I find selecting clips which show students how the concepts are applied not only increases the understanding or the topic but why it is included in the course. I also find these are good forums to allow creative thought and expression in discussion questions on the topic.
4	I did not see where the use of videos provided by the publisher was addressed in this survey which may have skewed some of the responses. I believe some training on use of videos in courses would be helpful.
2	Using movies or YouTube media enhance the class, especially for this age group. They are very comfortable with visuals and are not strong readers (in general). I feel we must include videos in order to reach our students. I have just started using the min-lecture videos and they have been well received. When I have more time, I will learn more.
4	The OLC was helpful in creation of videos for my courses they lost some before they were imported in course.

(continued)

Table 22 (cont'd)

2	It would be nice to know how to incorporate videos from textbook resources.
4	Guidance from the instructional designers to include new technologies (including video) is very helpful, but some designers are better at providing guidance and making suggestions more than others. It would be quite helpful for instructional designers to provide lots of information about different ways to translate course materials and content into an online environment.
2	Taking this survey, reminded of other ways to use video. I used to use Skype but many students were not ready to use the tool. Now I am sure many students could use Skype. I think another challenge is there are videos that can't be watched on ipads or hones
1, 2	When I did the exams, I very much appreciated the videos provided by Stalla to supplement the written text. The material summarizes the text and presents the material in an organized fashion. I would like to develop the same "look-and-feel" for my online course. I think that this is important for getting the material across to the students.
1, 2, 3	Student feedback has been exceptionally gratifying. They claim to have learned more, to have viewed movies they have seen previously in a completely new light as they analyzed the characters communication strategies, and to request to sign up for other curses I teach.
1, 4	I used video a few times several years ago. I found that although it was very useful, it essentially became more trouble than its value. If there was a method/program/system or something in place to make creation of simple lecture videos an easy task, I would use it.
	You really didn't survey what you claimed to survey. You really just wanted to know what I do in my class. Also, I can pretty much guarantee that most users of your survey do not have a fundamental knowledge of what 'split-attention' and 'redundancy' means relative to online learning. (I've studied this content in detail and teach it often.)

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