TechTrends (2017) 61:461–469
DOI 10.1007/s11528-017-0208-y

ORIGINAL PAPER

# "Picturing Them Right in Front of Me": Guidelines for Implementing Video Communication in Online and Blended Learning

**Richard E. West**[1] · **Jason Jay**[1] · **Matt Armstrong**[1] · **Jered Borup**[2]

Published online: 1 July 2017


**Abstract** We provide actionable strategies that teachers can follow when implementing asynchronous video communication and feedback in their own courses. These strategies are based on our own research over many years in the use of asynchronous video in online teaching, as well as our review of the literature, and are provided to foster greater discussion on the pedagogical strategies surrounding the use of video in online teaching.

**Keywords** Video · Online learning · Blended learning

No longer merely a projection, online learning is now a reality for higher education institutions and their students. According to Allen et al. (2016), more than 28% of all undergraduate students in the United States took at least one online course in fall of 2014, and 14% of all higher education students took all of their courses online. Most of these courses are delivered primarily asynchronously, allowing greater access to students who require a high level of flexibility (Parsad and Lewis 2008).

However, we cannot feel settled as instructional designers about the outcomes we are seeing from this explosion of online learning. Student satisfaction remains uneven (Young and Duncan 2014), and student attrition is still frustratingly high (Freidhoff 2016). Even more worrisome is that this attrition does not appear to be due to an inability to learn or a lack of knowledge, but simply a lack of student persistence (Hart 2012). Students also often report feeling disconnected and isolated in online learning experiences (Palloff and Pratt 2007), and even find attempts at online collaborative learning to be a "frustrating" experience (Capdeferro and Romero 2012). Much of the problem resides with how instructors teach online, as Boling et al. (2012) found in their qualitative study of six online instructors that an emphasis on text-based content and lecture "led to a disconnect between students, teachers, and course content and goals" (p. 118). By improving their interactions with students, online instructors may be able to decrease student isolation and frustration while also increasing student satisfaction and persistence.

Theories about social presence provide a lens for examining the quality of online interactions. Social presence was originally defined as "the degree of salience of the other person in the interaction" (Short et al. 1976). Short et al. (1976) originally viewed social presence as an objective attribute of the communication medium—the more communication cues that could be conveyed the higher the social presence. However, Gunawardena (1995; 1997) later argued that the ability of the medium to convey communication cues was not enough and that social presence was ultimately the result of communication behavior that allowed others to perceive them as *real people*.

In the well known Communities of Inquiry (CoI) framework, social presence is defined as the ability to project one's self socially and emotionally into the learning community (Rourke et al. 1999). An important contribution of the CoI framework was that it explained how social presence could impact students' satisfaction (Bulu 2012) and abilities to master the course content in courses that have a high degree of interaction, promoting discourse-based learning (Kim et al. 2011). Instructor social presence appears to be especially important. For example, Swan and Shih (2005) surveyed 51 students from four online graduate courses about their perceptions of the social presence of peers and instructors,

✉ Richard E. West
rickwest@byu.edu

[1] Brigham Young University, Provo, UT, USA

[2] George Mason University, Fairfax, VA, USA

satisfaction and perceived learning, and their perceptions of interactions within the course. Through ANOVA analysis and qualitative analysis of students with the highest and lowest perceptions of social presence, they found instructor social presence to be more influential in determining student satisfaction than peer social presence.

Kim et al. (2011) found that two factors were significant predictors of both social presence and student satisfaction: media integration and instructors' teaching quality. These factors are not surprising considering the foundational links between media and social presence (Short et al. 1976), and yet they are often overlooked. One potential technology that may marry these two factors of media and pedagogy together effectively in online teaching is video. Video in general has the capability of providing more immediacy and social presence (Draft and Lengel 1986; Short et al. 1976), and video communication tools are now becoming easier to use and implement. In addition, the use of video in assessment can provide higher quality feedback to students and improve their engagement (Crook et al. 2012). Because asynchronous video technologies specifically answer the need for flexibility that leads many students to online learning (Allen et al. 2013), in this paper we review the key strategies, backed by research, for using asynchronous video communication to improve instructor social presence. In doing so, we will not focus on instructional videos created for whole group instruction. Rather we will focus on direct video communication with specific students. This can include project feedback, discussion board comments, class announcements, and any other communication that would be unique to a specific student or course section.

## Asynchronous Video in Online Learning

Asynchronous video has many affordances that can benefit online learning. Video can show both nonverbal as well as verbal communication (Draft and Lengel 1986; Short et al. 1976), and improve instructor immediacy (Barrow 2012; Griffiths and Graham 2009a; Henderson and Phillips 2015). When the video is transmitted asynchronously, it can overcome slower internet speeds that could hamper synchronous communication (Griffiths and Graham 2009a) and maintain the convenience of asynchronous online learning (Griffiths and Graham 2009b). Flexibility between exchanges also affords participants the opportunity to craft more meaningful and reflective comments (Graham 2006). The nature of video recordings also allows the recipient to watch the comment multiple times if needed (Moore and Filling 2012).

Recorded student communication and assessment feedback are not new. Early research described instructors who audio recorded feedback messages and then mailed the cassette tapes to students (Kirschner et al. 1991). When the internet was still relatively new, Inglis (1998) showed that video feedback comments could be sent via email using dial-up connections but the process was complicated and the messages were limited. Thankfully, current digital video technologies and webcams have evolved in conjunction with high-speed internet connections to the point of making the technological hurdle much lower. Consequently, students and teachers can easily create video messages by just clicking a button and talking (Silva 2012; Wood et al. 2011).

Some learning management systems have further streamlined the process of using video, particularly for assessment purposes, by providing video-enabled discussion boards and gradebooks. These tools, along with other video tools, have simplified the ability to use video for feedback and assessment, leading to improved student self-assessment (Hawkins et al. 2012), reflection (Leijen et al. 2009), engagement (Crook et al. 2012), and improved performance (Boyer et al. 2009).

As video technologies have improved, there have been a few recent studies into the effectiveness of using asynchronous video, specifically, in online learning. Students in Moore and Filling's (2012) research explained that video feedback allowed students to refer back to the comment while revising their work, but it remained conversational and felt similar to face-to-face discussions. Indeed a student in a study by Khurana and Boling (2010) remarked, "Hearing each other's voices helped a lot too. Then when I read their posts, I could hear their voices, so to speak" (p. 1816). Adding facial cues to voice can only amplify this benefit.

Hew and Cheung (2013) also found that discussion board activities using audio recorded messages added a level of authenticity and social presence difficult to achieve in text. However, these benefits come at a cost. For example, Harrison (2015) used modified grounded theory methods to analyze statements from 116 online students. He found many positive effects but also noted some drawbacks including technical challenges due to accessing the video on the university's hosting service, time and skill challenges related to producing the videos, and a decrease in perceived effectiveness when videos reached 20 min in length—or even 10 min for some students.

In addition, while it is true that video comments can be more conversational and humanizing, the nature of video makes it time consuming to edit, forcing students and instructors to rerecord their videos when they wish to amend their comments or when they feel uncomfortable with mistakes (a discomfort that can ease with practice) (Barrow 2012; Harper et al. 2012). For example, Hew and Cheung (2013) found that students preferred text comments because it was more efficient to read and they had more control to edit comments prior to posting. McCarthy (2015) explained that in larger course sections providing feedback "can be a highly repetitive process" (p. 154) and instructors have reported that at times their video feedback comments contained similar statements and they would have preferred to have been able to copy and paste the text comments (Borup et al. 2015). Some students

have also discovered that video comments can take longer to watch than the time it takes to skim text (Cuthrell et al. 2009; Rodway-Dyer et al. 2011).

Similarly, instructors have reported that technological challenges can at times make creating and sharing videos and audio files more time consuming than if they were to communicate via text (Hew and Cheung 2013). Furthermore, some students have explained that when project revisions are necessary, it can be more time consuming to refer back to specific comments in the video recordings than it is to refer back to text comments (Harper et al. 2012). Lastly, the same authenticity that allows students to know that instructors valued their work can also convey instructors' frustration and disappointment even when instructors do not wish to convey those emotions.

## Purpose of this Article

When referring to text-based computer-mediated communication (CMC), Gunawardena and Zittle (1997) explained,

> [Instructors] who have a lesser-developed ability to project their personality will need to learn to adapt to the CMC medium by developing skills that create a sense of social presence. … It is these skills and techniques, rather than the medium that will ultimately impact students' perceptions of interaction and social presence, which will influence their satisfaction (p. 23-24).

Similarly, instructors who are effective at conveying their social presence via text may lack the skills and ability to effectively communicate via asynchronous video. Although researchers have identified potential benefits and drawbacks to asynchronous video communication, more research is needed that provides practical, usable strategies for utilizing video in online instruction in ways that maximizes the benefits and limits the drawbacks. In all the research, implications for practice is often lacking. As Harrison (2015) remarked about video lectures (but we feel the sentiment applies with other uses of video in instruction as well), communicating effectively in asynchronous video has proven challenging and demanded more "pedagogical understanding than we possessed" (p. 185).

The purpose of this article is to meet this need of providing greater pedagogical understanding to those seeking to use video, particularly asynchronous video, in their online teaching. Our goal is to provide actionable strategies that teachers can follow when implementing asynchronous video communication and feedback in their own courses. These strategies are derived from our research and experience using asynchronous video for many years, as well as additional insights from the research literature, and thus we will refer to several of our previous research studies where data supports the strategies we recommend here. We begin by summarizing our background and data, and then providing these practical strategies for instructors.

## Our Context and Teaching Background

Two of the authors began researching asynchronous video in our own courses in 2011, and have published findings related to how video can improve online social presence (Borup et al. 2012), effect the quality of instructor feedback (Borup et al. 2015; Harrison and West 2014; Borup et al. 2014), and strengthen students' sense of community (Harrison and West 2014; Borup et al. 2014).

In these research studies, interviews were conducted with students and instructors who experienced the use of asynchronous video feedback in undergraduate technology integration courses for preservice teachers. During those interviews, some questions were asked about pedagogical strategies for improving the use of video. That data had not been explored in previous articles, and constitutes the bulk of our discussion in this paper. In addition, we reviewed various scholarly databases for published articles related to the use of video in online teaching. We searched these articles for specific tips and strategies derived from the research findings. We then combined our findings from our own data with these insights from the literature to present tips and strategies for other online teachers interested in using video. Lastly, two experienced instructors outside of our departments with experience providing video feedback reviewed our findings and provided additional suggestions that we integrated into the final article.

## Strategies for Best use of Video

In this portion of our paper, we share our findings and insights according to three categories: (1) how to make video instruction more *efficient;* (2) how to use video to make teaching and learning more *engaging;* and (3) how to use video to make teaching and learning more *effective.*

### Improving Efficiency

Feedback videos are best when they are prompt, providing quick feedback to students. It is also helpful to maintain continuous dialogue with students with short, regular videos (Borup et al. 2013). Although one instructor in our study recommended getting feedback within a week, Getzlaf et al. (2009) found that students vary in what they consider to be prompt, but that it is important they know what timeline to expect from their instructor for both receiving the feedback and being able to implement it into their work. One student in Getzlaf's study noted that an expedient response to an assignment gave her "ample time to use the information . . . in a

meaningful way" (p. 13). She went further on this point, noting that prompt feedback gave her time to "process it and use it to prepare for another assignment" (p. 13). However, it can be challenging to provide students with video feedback quickly, and in this section we will share some strategies to make the process more efficient.

**Write Out Ideas First** One of the negatives of using video, as reported by instructors in our studies, is that it can be inefficient if you are not prepared and end up rambling or talking around the main points instead of addressing them directly. We have found that quickly jotting out ideas, such as the major pieces of feedback you want to share with a student, before turning on the camera can reduce re-recording. As Chris from our research said, "Figure out what you want to say first before you jump in" or as Dylan commented, "have a paper in front (of you)." Conversely, Harper et al. (2012) recommended that instructors record their video feedback as they review the project for the first time, capturing their first impressions. We have also found it helpful to provide feedback via screencast recordings, pausing during the recording to collect thoughts about the project.

**Provide Summary Notes for Students** These notes, often in bullet-point form, of the things you want to say in the video can often be pasted into a text field in most video programs as a summary of the main ideas. For example, we provide video feedback in Canvas, but often still provide the summary as text. This way students get the rich description via video as well as the text comments for easy reference. This is also helpful for instructors when students resubmit work as a record/reminder of the original feedback which is easily accessible.

**Avoid re-Recording Videos** Recording video feedback or instruction can quickly become burdensome if you hold yourself to a standard of perfection. We found that small errors in a recording were not a good enough reason to spend time re-recording.

**Keep It Short** Keep videos under 10 min (Harrison 2015; Moore and Filling 2012), or as short as possible to communicate what is needed. To do this, it is helpful to teach the most important concepts first, so that if needed the video can be cut from the end. In addition, using shorter videos rather than one longer video seems to improve student engagement. As Thomson et al. (2014) said, "Because viewer abandonment rates are also far higher for online video than other media, getting to the point quickly is crucial. Therefore, the most important concepts should be presented first if possible" (p. 75).

**Combine Whole Group and Personalized Feedback** Instructors found that providing video feedback to each student individually required them to repeat similar feedback comments for multiple students. This repetition reduced the efficiency of the process and some instructors wished that video had the same functionality of text that allowed them to copy and paste comments for multiple students. While video does not easily allow for copying and pasting comments, one instructor recommended that teachers first survey submitted work and identify common issues or successes and then create a single video feedback comment that instructors could share with the entire course as a way to supplement the personalized feedback that focused on issues and success that were more unique to each individual. Personalized feedback could also be made available to other students in the course when it does not contain grade or rubric specifics similar to instructor feedback provided in an art studio setting.

**Understand your Technological Limitations** Some of the biggest efficiency destroyers with video come from working with large files, and an inaccurate assessment of the computing power and bandwidth for those creating or using the videos. For example, some university hosting services do not provide compression like Youtube/Vimeo that adapts for the end-user, among other video support issues (Harrison 2015). We found in our own experience that the learning management system was often clunky in handling video posts, often timing out before posting, which created frustrating barriers. Similarly, Beckstrom (2016) found in his evaluation of the use of video to give feedback to special education students that the biggest hurdle was a lack of bandwidth for teachers in their schools to be able to upload video. To overcome these issues, many instructors have used more robust technologies outside of their learning management systems, such as Jing or Youtube. However, instructors should be aware of government regulations surrounding student data privacy, and strive to maintain this privacy with anything related to student assessment. Similarly, when recording their screen, instructors should ensure that their gradebook is closed to avoid accidently showing other students' grades when switching applications and having to rerecord the feedback.

When bandwidth is inadequate, instructors may save time by creating their recordings and then uploading the videos to a hosting service when they can gain access to a stronger Internet connection. We also recommend that instructors take the time to test their equipment prior to creating video feedback comments to avoid having to rerecord comments.

### Improving Personability

**Embrace Imperfection** The most frequently mentioned tip from the instructors in our research was to not be afraid of imperfect videos that showcased the instructor as a living, breathing human. Sometimes, in an effort to produce clean videos, the videos can become almost sterile, which we found could decrease engagement and the sense of social presence.

Rourke et al. (2007) explained that social presence can be improved through various methods such as humor, self-disclosure, emotions, and even informal language that serves no other purpose than social functions. The instructors we interviewed agreed. Jon advised, "Don't worry about if it isn't a polished video" and Dylan from our study advised "be okay with flubs." James added, "It is okay if the students see that you mess up because it makes you more human." Hughes' (2008) explained that students expect professionalism—not perfection—and that mistakes allow "students to see [us] as more human and it [helps] students' confidence levels to see even their professor makes mistakes" (p. 4).

Students in our research tended to agree, and often felt that small errors made the instructors seem more human. In one situation, an instructor was embarrassed that his toddler jumped onto his lap while recording a video because he believed it was too unprofessional. But in reality, one student we interviewed commented specifically on this incident and how much she liked seeing her instructor as a real person in his home. She reported, "sometimes you can see their family making faces in the background and it's really funny." Recently, a viral video showed a father conducting a video interview with BBC while being interrupted by his children, and even that seemed to frustrate the father. Our research, and the positive response from BBC viewers who enjoyed the interruption by the children, indicates that the father would have been better served acknowledging the interruption without embarrassment as part of the humanity we all share.

**Be Authentic and Personable** In our research we found great value in instructors learning to be authentic and personable in their videos—or being "true to yourself" as Gina told us. For example, we found occasional tangents—despite the negative effect on efficiency—can be helpful in making the instructor seem more real (Borup et al. 2013). Garrison et al. (1999) argued that self-disclosure, or "sharing of feelings, attitudes, experiences, and interests" (p. 100) is important in establishing social presence in a course and "encourages others to be more forthcoming and to reciprocate, with the outcome being increased trust, support, and a sense of belonging" (p. 100). One key way to do this is through humor or "talk with a smile" as Benjamin in our study said, and "be really expressive." Being authentic also means making sure students can really see, hear, and connect with you. Justin advised to "share things about [your]self" and "highlight things we have in common." Another instructor advised using the student's name early in the video to make it personable.

Thomson et al. (2014) added that videos should be presented with authenticity by being conversational and detailed, and suggested projecting your personality "through that inanimate, intimidating, unresponsive piece of glass" (p. 74) instead of just speaking to the camera. One example in our field is the instructional design videos created by Lloyd Rieber at the University of Georgia. In this series, Rieber begins each instructional video providing an overview of the lesson while sitting on a bench on his farm next to his cow. Without words, Rieber powerfully projects some of his personal hobbies, interests, and personalities into the video, making it seem more personable and human. Similarly, when providing video feedback, instructors can improve student engagement by visually self-disclosing their personal interests. When recording indoors, the technical strategy that several teachers in our study mentioned was the need to have good lighting and audio, as dark or noisy rooms may create the wrong impression about the person speaking and diminishes the ability to hear and read non-verbal communication.

Similarly, Benjamin from our research said he found it useful to visualize the students, "right in front of me while I was giving them the feedback." This takes practice as, "It is very rare indeed for *anybody* to spontaneously demonstrate a natural affinity for presenting to camera without some kind of specific experience, professional development and/or coaching" (Thomson et al. 2014, p. 74) so instructors should not worry too much if it feels uncomfortable at first.

## Improving Effectiveness

**Use a Variety of Methods** Do not use video communication for everything. Video is best in providing cognitive, nurturing, and experiential value (Thomson et al. 2014) and is more effective when it does not constitute the whole experience. In general, it is good practice to use video when more personal support is needed because it is easier for instructors to convey their emotions (Borup et al. 2015). However, when interviewing students and instructors we found that video also conveyed negative emotions, such as frustration, even when the instructor did not wish to convey them. As a result, when instructors have negative emotions regarding a project, it is best to provide feedback via text or wait to record the video feedback at a time when those feelings have subsided. Instructors in our study also found that students naturally conveyed positive and negative emotions regarding course projects and requirements when they created videos. As a result, instructors may assign video reflections and assessments when it is important to assess both students' cognitive and affective engagement in the course.

We found some evidence (Borup et al. 2015) that text may be more effective when giving feedback that is minor, specific, and straightforward, and particularly useful for smaller assignments, but that video feedback is useful for more complex feedback and overall comments, a thought echoed by Henderson and Phillips (2015).

Not only do instructors need to decide between text and video communication, they need to decide what type of video communication they should use. As stated previously, webcam recordings contain helpful visual cues, and

students reported that seeing their instructor's face and environment helped them see them as a real person. However, webcam recordings typically do not show students' work, making it somewhat difficult for students to know the exact portion of their work to which the instructor is referring. For instance a student interview participant who received video feedback in Henderson and Phillips (2015) research stated:

> I think this feedback was far more comprehensive than any written feedback that I have received [to date]. In saying that though, I did, at times, find it difficult to follow what section of the piece [the lecturer] was referring to, even though he made references to page numbers and sections. (p. 62)

One strategy that three of the instructors we interviewed used was to provide feedback using screencast videos to provide more contextual cues to their comments. For instance, instructors in our research commonly required students to create an instructional video. Using a screencast, instructors could contextualize their comments to specific portions of the video and even play portions of the video so that students could better visualize how their project could be improved. Screencasts also allow instructors to more easily model strategies for improvement. For instance, one instructor who used video feedback in his game design course used screencasts to model specific ways that students could improve their animations.

Screencasting tools typically allow instructors to combine a recording of the screen with webcam recordings showing the teacher talking. This can particularly be useful when you also show the webcam in the screencast, allowing students to continue to connect to you as a person, while you utilize the screencast tools of mouse circles and text typing to show specific areas of improvement in the project. However, displaying two screens—one showing the instructor talking and one showing the student's project—can make it more difficult to focus on the content. Perhaps a more effective approach could be to start and end the feedback showing only a video of the instructor talking and then showing only the instructor's screen when they are providing specific feedback comments. The need to include a webcam video of the instructor is likely the highest at the start of the semester and could wane once students have developed a connection with the instructor and have become familiar with his/her facial expressions. Although not all screencasting tools allow instructors to combine webcam video with screen recordings, one instructor we interviewed created a workaround for this limitation by manually clicking and dragging a webcam video feed into the area of the screen that he was recording as a screencast, and then dragging it out of the recorded area when he wanted to focus on specific aspects of students' projects.

**Consider your Audience** We have found that students respond to online learning in very different ways based on their cultural and personal backgrounds and that it is good practice to use "different kinds of learning experiences for differing student needs" (Swan and Shih 2005, p. 131). This is especially true when instructors ask students to create and receive video messages. In our research examining video discussion board activities, for example, we found differences between how introverts and extroverts participate in and perceive online communication (Borup et al. 2013). In addition, there are differences in students and instructors that are good writers versus good orators, and between those who are more expressive non-verbally than others (Thomas 2017).

Because of these differences, some students may feel more comfortable communicating and receiving feedback via video, while others may do better via text. Thus, instructors who wish to assess students using video communication should spend some time understanding student skill sets and being sure they know how to use the communication tool. They might use the technology that students prefer, at least initially, but could then change the technological medium later as students grow more comfortable with the course and the instructor-student relationship (Velasquez et al. 2013). Instructors could also provide examples of effective responses for students (Borup et al. 2013).

**Timing for Videos vs. Text** In synthesizing the findings from our research, we believe the best time for video use would be at the beginning of the semester to help establish presence with students. Synchronous video could potentially be most effective for establishing this early social presence and relationship. In addition, we found (Borup et al. 2015) that the videos should be positive and encouraging particularly at the beginning of the semester when students feel the most insecure. However, video can be effective at any part of the semester when students need extra affective support, perhaps because of a lack of confidence, because the feedback is particularly critical, or because of a unique need to show students you care and want them to succeed.

Khurana and Boling (2010) added the suggestion of inviting students to make introductory videos at the beginning of a course to then enhance the text-based communication in the future. One student commented, "Hearing each other's voices helped a lot too. Then when I read their posts, I could hear their voices, so to speak" (p. 1816). These uses of video are likely particularly important in fully online courses instead of blended ones, where students would not have any other face to face contact with instructors (Palloff and Pratt 2007).

In addition, when the goal is to provide feedback on writing, Harper et al. (2012) recommended making all the corrections in the text first and then use the video to explain the edits; and showing the original document side-by-side with the corrected document while explaining the differences in the

video. Instructors can also choose to provide students with personal text feedback and then provide a single video comment to the class to highlight general impressions and trends across all projects.

## Conclusion

As we have studied the use of video in education over several years, we have been surprised that there are actually few articles discussing practical strategies, based on research, for implementing video effectively into online and blended settings—particularly in regards to using video for discussion/feedback rather than presentation. In this paper, we have attempted to start a discussion in this space by sharing strategies and instructional principles from our own research as well as the literature we could find. In summary, we believe that video discussions/feedback can be implemented into online settings most effectively by following these strategies:

Make video use more **efficient** for instructors as well as students by**:**

- Writing out ideas first.
- Providing summary notes for students.
- Avoiding re-recording videos.
- Keeping videos short.
- Communicating feedback in a timely manner.
- Understanding yours and your students' technological limitations—especially when requiring them to create videos.

Make videos **personable** by:

- Projecting your personality, even if it means leaving imperfections in the video.
- Being positive and conversational, sharing humor, expression, voice inflection, hand gestures, and compliments/praise.
- Implementing various strategies to help envision students are there in front of you as you record.

Make videos **effective** teaching tools by:

- Using screencast videos to contextualize your comments when giving assessment feedback and webcam videos to establish social presence.
- Keeping it short and concise.
- Being aware of setting, background, lighting, and audio quality.
- Giving timely feedback to students based on assessments of their work.
- Using video mostly for overall feedback, communicating particularly critical feedback, and early in the semester to establish social presence.

## The Need for Continued Research

Despite some recent interest in studying video strategies in online settings, the literature in this area is still sparse. In particular, we found that most of the research currently done relies on students' perceptions, and that more research is needed that looks at course and learning outcomes, as well as effects of video on various kinds of social, cognitive, and teacher presence in online courses. In addition, emerging tools such as EdPuzzle allow for different pedagogical and assessment strategies with video that should be explored through research.

As scholars, we hope that as we study these topics, we will continue to not only expand the theoretical knowledge base, but also the practitioner knowledge base by communicating these strategies directly to practitioners, in an effort to meet the growing demand for improved professional development of online instructors.

**Acknowledgements** We gratefully acknowledge Patrick Lowenthal at Boise State University and Gregory Grimsby from George Mason University for reviewing our findings and providing additional recommendations based on their wealth of experience using video feedback.

## References

Allen, M., Omori, K., Burrell, N., Mabry, E., & Timmerman, E. (2013). Satisfaction with distance education. *Handbook of Distance Education, 2013*, 143–154. doi:10.1348/000709905X2699.

Allen, I. E., Seaman, J., Poulin, R., & Taylor Straut, T. (2016). Online report card: Tracking online education in the United States. Babson Survey Research Group and Quahog Research Group. http://onlinelearningsurvey.com/reports/onlinereportcard.pdf.

Borup, J., West, R. E., & Graham, C. R. (2012). Improving online social presence through asynchronous video. *The Internet and Higher Education, 15*(3), 195–203.

Borup, J., West, R. E., & Graham, C. R. (2013). The influence of asynchronous video communication on learner social presence: A narrative analysis of four cases. *Distance Education, 34*(1), 48–63.

Borup, J., West, R. E., Thomas, R., & Graham, C. R. (2014). Examining the impact of video feedback on instructor social presence in blended courses. *The International Review of Research in Open and Distributed Learning, 15*(3). doi:10.19173/irrodl.v15i3.1821.

Borup, J., West, R. E., & Thomas, R. (2015). The impact of text versus video communication on instructor feedback in blended courses. *Educational Technology Research and Development, 63*(2), 161–184.

Barrow, T. H. (2012). *Social presence in the asynchronous online classroom: The asynchronous online video conversation (unpublished doctoral dissertation)*. Lubbock: Texas Tech University.

Beckstrom, T. (2016). An implementation evaluation of the distance observation method for special education teacher candidates. Unpublished master's project.

Boling, E. C., Hough, M., Krinsky, H., Saleem, H., & Stevens, M. (2012). Cutting the distance in distance education: Perspectives on what promotes positive, online learning experiences. *The Internet and Higher Education, 15*(2), 118–126.

Boyer, E., Miltenberger, R. G., Batsche, C., Fogel, V., & LeBlanc, L. (2009). Video modeling by experts with video feedback to enhance gymnastics skills. *Journal of Applied Behavior Analysis, 42*(4), 855–860.

Bulu, S. T. (2012). Place presence, social presence, co-presence, and satisfaction in virtual worlds. *Computers & Education, 58*(1), 154–161.

Capdeferro, N., & Romero, M. (2012). Are online learners frustrated with collaborative learning experiences? *The International Review Of Research In Open And Distributed Learning, 13*(2), 26–44 http://www.irrodl.org/index.php/irrodl/article/view/1127/2129.

Crook, A., Mauchline, A., Maw, S., Lawson, C., Drinkwater, R., Lundqvist, K., Orsmond, P., Gomez, S., & Park, J. (2012). The use of video technology for providing feedback to students: Can it enhance the feedback experience for staff and students? *Computers & Education, 58*(1), 386–396.

Cuthrell, K., Fogarty, E. A., & Anderson, P. J. (2009). "is this thing on?" university student preferences regarding audio feedback. In *Society for Information Technology & Teacher Education International Conference* (pp. 32–35).

Draft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science, 32*(5), 554–571.

Freidhoff, J. R. (2016). *Michigan's K-12 virtual learning effectiveness report 2014–2015*. Lansing: Michigan Virtual University. http://media.mivu.org/institute/pdf/er_2015.pdf.

Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education, 2*(2), 87–105.

Getzlaf, B., Perry, B., Toffner, G., Lamarche, K., & Edwards, M. (2009). Effective instructor feedback: Perceptions of online graduate students. *The Journal of Educators Online, 6*(2), 1–22.

Graham, C. R. (2006). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), *Handbook of blended learning: Global perspectives, local designs* (pp. 3–21). San Francisco: Pfeiffer Publishing.

Griffiths, M. E., & Graham, C. R. (2009a). The potential of asynchronous video in online education. *Distance Learning, 6*(2), 13–23.

Griffiths, M. E., & Graham, C. R. (2009b). Using asynchronous video in online classes: Results from a pilot study. *International Journal of Instructional Technology and Distance Learning, 6*(3), 65–76.

Gunawardena, C. N. (1995). Social presence theory and implications for interaction and collaborative learning in computer conferences. *International Journal of Educational Telecommunications, 1*(2/3), 147–166.

Gunawardena, C. N., & Zittle, F. J. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. *American Journal of Distance Education, 11*(3), 8–26.

Harper, F., Green, H., & Fernandez-Toro, M. (2012). Evaluating the integration of Jing screencasts in feedback on written assignments. In *2012 15th International Conference on Interactive Collaborative Learning (ICL)* (pp. 1–7). IEEE. doi:10.1109/ICL.2012.6402092.

Harrison, D. J. (2015). Assessing experiences with online educational videos: Converting multiple constructed responses to quantifiable data. *International Review of Research in Open and Distributed Learning, 16*(1), 168–192 http://eric.ed.gov/?id=EJ1061070.

Harrison, J. B., & West, R. E. (2014). Sense of community in a blended technology integration course: A design-based research study. *The International Review of Research in Open and Distributed Learning, 15*(6). doi:10.19173/irrodl.v15i6.1907.

Hart, C. (2012). Factors associated with student persistence in an online program of study: A review of the literature. *Journal of Interactive Online Learning, 11*(1), 19–42.

Hawkins, S. C., Osborne, A., Schofield, S. J., Pournaras, D. J., & Chester, J. F. (2012). Improving the accuracy of self-assessment of practical clinical skills using video feedback–the importance of including benchmarks. *Medical Teacher, 34*(4), 279–284.

Henderson, M., & Phillips, M. (2015). Video-based feedback on student assessment: Scarily personal. *Australasian Journal of Educational Technology, 31*(1), 51–66. doi:10.14742/ajet.v0i0.1878.

Hew, K. F., & Cheung, W. S. (2013). Audio-based versus text-based asynchronous online discussion: Two case studies. *Instructional Science, 41*(2), 365–380. doi:10.1007/s11251-012-9232-7.

Hughes, G. D. (2008). Using videos to bring lecture to the online classroom. College Quarterly, 12(1). http://eric.ed.gov/?id=EJ864472.

Inglis, A. (1998). Video email: A method of speeding up assignment feedback for visual arts subjects in distance education. *British Journal of Educational Technology, 29*(4), 343–354. doi:10.1111/1467-8535.00080.

Khurana, C., & Boling, E. (2010). "setting the climate": The role of instructional design and multimedia to enhance social presence. In *World Conference on Educational Media, Hypermedia, and Telecommunications* (pp. 1813–1818).

Kim, J., Kwon, Y., & Cho, D. (2011). Investigating factors that influence social presence and learning outcomes in distance higher education. *Computers & Education, 57*(2), 1512–1520.

Kirschner, P. a., Brink, H., & Meester, M. (1991). Audiotape feedback for essays in distance education. *Innovative Higher Education, 15*(2), 185–195. doi:10.1007/BF00898030.

Leijen, Ä., Lam, I., Wildschut, L., Simons, P. R. J., & Admiraal, W. (2009). Streaming video to enhance students' reflection in dance education. *Computers & Education, 52*(1), 169–176.

McCarthy, J. (2015). Evaluating written, audio and video feedback in higher education summative assessment tasks. *Issues in Educational Research, 25*(2), 153–169.

Moore, N. S., & Filling, M. L. (2012). iFeedback: Using video technology for improving student writing. *Journal of College Literacy & Learning, 38*, 3–14.

Palloff, R. M., & Pratt, K. (2007). *Building online learning communities: Effective strategies for the virtual classroom* (2nd ed.). San Francisco: Jossey-Bass.

Parsad, B., & Lewis, L. (2008). *Distance education at degree-granting postsecondary institutions: 2006–07*. Washington, D.C.: National Center for Education Statistics http://nces.ed.gov/pubs2009/2009044.pdf.

Rodway-Dyer, S., Knight, J., & Dunne, E. (2011). A case study on audio feedback with geography undergraduates. *Journal of Geography in Higher Education, 35*(2), 217–231. doi:10.1080/03098265.2010.524197.

Rourke, L., Anderson, T., Garrison, D. R., & Archer, W. (1999). Assessing social presence in asynchronous text-based computer conferencing. *Journal of Distance Education, 14*(2), 50–71.

Rourke, L., Anderson, T., Garrison, D. R., & Archer, W. (2007). Assessing social presence in asynchronous text-based computer conferencing. *International Journal of E-Learning & Distance Education, 14*(2), 50–71.

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. New York: John Wiley & Sons.

Silva, M. L. (2012). Camtasia in the classroom: Student attitudes and preferences for video commentary or Microsoft word comments during the revision process. *Computers and Composition, 29*(1), 1–22. doi:10.1016/j.compcom.2011.12.001.

Swan, K., & Shih, L. F. (2005). On the nature and development of social presence in online course discussions. *Journal of Asynchronous Learning Networks, 9*(3), 115–136.

Thomas, R. A., West, R. E., & Borup, J. (2017). An analysis of instructor social presence in online text and asynchronous video feedback comments. *The Internet and Higher Education, 33*, 61–73.

Thomson, A., Bridgstock, R., & Willems, C. (2014). "teachers flipping out" beyond the online lecture: Maximising the educational potential of video. *Journal of Learning Design, 7*(3), 67–78.

Velasquez, A., Graham, C. R., & West, R. E. (2013). An investigation of practices and tools that enabled technology-mediated caring in an online high school. *The International Review of Research in Open and Distributed Learning, 14*(5). doi:10.19173/irrodl.v14i5.1465.

Wood, K. A., Moskovitz, C., & Valiga, T. M. (2011). Audio feedback for student writing in online nursing courses: Exploring student and instructor reactions. *The Journal of Nursing Education, 50*(9), 540–543. doi:10.3928/01484834-20110616-04.

Young, S., & Duncan, H. E. (2014). Online and face-to-face teaching: How do student ratings differ? *MERLOT Journal of Online Learning and Teaching, 10*(1), 70–79.