

## Blurred Experiences: The undefined contours of student learning in online environments

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### Abstract:

The purpose of this study was to investigate student learning experiences with online instructional videos. Drawing upon qualitative interviews and user experience talk-throughs, this paper argues that students do not necessarily experience online instructional videos (and other types of course content) as discrete elements, or differentiate them from other aspects of the course. The implications are that students have significant agency in these online environments and their meaning-making of instructional content may not align with designers' intentions. In addition, the times and contexts in which students view instructional videos shifts (e.g. between home and commuting). The emerging findings have design implications related to the creation of learning environments in online spaces, such as fully integrating content within the instructional design of a course and focusing on the digital contexts in which educational content is embedded.

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“Wait, I’m getting confused between Powerpoint slides and videos” (Interview participant from current study). Online learning is a rapidly expanding field in education. According to a 2014 survey by the College Board and Babson Survey Research Group, over 7.1 million postsecondary students are enrolled in at least one online course in the United States (over a third of all postsecondary students). A 2015 market report by Global Industry Analysts estimates online learning to be a \$107 billion industry, with projections to grow significantly over the next decade (McCue, 2014). The current research investigating online learning suggests mixed results (Jaggars, Edgecombe, & Stacey, 2013; Mentzer, Cryan, & Teclehaimanot, 2007; United States Department of Education, 2010; Wang, 2008; Xu & Jaggars, 2011), measured through assessments such as grades, standardized test scores, and student satisfaction surveys. While there are emerging best practices for online courses, much remains inconclusive. Fundamental questions about online learning are in the early stages of exploration, such as: how students learn from online courses and what impacts their motivation, what helps students retain knowledge, what is best taught online vs. face to face, how do the affordances and constraints of online tools influence learning, and so forth. There is limited research concerning how students experience online courses and how students are experiencing online instructional environments.

## Background

Video has been a tool supporting education for many years (Sheppard, 2009). In World War II, filmstrips were studied as a resource for training soldiers (Hovland, Lumsdaine, & Sheffield, 1949). Instructional television developed in the 1950s and 1960s, and Public Broadcasting Service (PBS) began in 1970, which created a wide range of educational television content (such as Sesame Street). Video is a medium that has the ability to involve both auditory and visual symbol systems, creating a multisensory environment. There are many educational possibilities offered via video, such as simulations, dynamic modeling, conceptual visualizations, narrative content, and other formats (Baggett, 1984).

Instructional media has been primarily investigated from a cognitive studies standpoint, assessing learning on an individual level with pre-test and post-test study designs (Atkinson, Mayer, & Merrill, 2005; Mayer, 2001, 2008; Moreno & Mayer, 2004; Sweller, 2004). Much of this research implies that instructional videos are more impactful when cognitive load is reduced on the part of the end user—such as “the multimedia principles” (Mayer, 2008), which are a series of design principles based on the idea of minimizing working memory to decrease cognitive load. For instance, one of the principles is the “modality principle,” which states that if animation is in an instructional video, it is better to use spoken text rather than written text, so the user is not concentrating on both animation and words on the screen. Instructional media has also frequently been evaluated from a student satisfaction standpoint, using student satisfaction surveys with Likert scales (Bennett & Glover, 2008; Choi & Johnson, 2005; Maag, 2004). There has been little investigated, however, as to the qualitative experiences students have with instructional media, especially as it relates to their broader experiences with a course or program.

Instructional media production is a significant industry and frequently occupies a central role within online educational spaces. In online education, video is often used as the primary method of delivering education content such as instructor lectures (McConachie & Schmidt, 2015). Yet despite the relatively high costs of video production, there is an absence of research as to the value of video in online courses. The research that does exist often focuses on engagement metrics such as views and play-through rates (Guo, Kim, & Rubin, 2014; McConachie & Schmidt, 2015). This raises several questions about the assumptions behind producing instructional videos for online courses:

- What are students’ perspectives of these videos?
- How are they engaging and interacting with videos?
- How do videos relate to their learning experiences and goals?

These questions lead to a research project investigating how students make sense of their learning experiences from videos, in an online environment?

## Setting

The current study took place at an urban, private graduate school that is part of a larger university located in the Northeastern United States. This school offers a variety of master’s degrees and certificate programs built around emerging and interdisciplinary professions. Of these degrees and programs, approximately half of them offer courses that are delivered as online or hybrid, meaning that a significant amount of course activities (80% or more) occur both synchronously and asynchronously in online learning environments (although there are a handful of face-to-face residency sessions per semester). Courses in the online programs are hosted on

the learning management system (LMS) Canvas, where the majority of the course materials are posted and social exchanges occur: syllabi, announcements, case studies, readings, quizzes, resources, discussion forums, assignments, and so forth. Most of the courses also have weekly live sessions integrated directly into the LMS and hosted on the webinar platform, Adobe Connect, where students and faculty members meet for approximately 60-90 minutes in virtual real-time events that encompass lectures, class discussions, group work, student presentations, and other forms of classroom interactions.

An internal development team at this graduate school (including instructional designers, course developers, educational technologists, online instructional support, and media producers) collaborate with faculty to produce and execute these online courses. The production cycle for these courses typically occur the semester prior to when the course will run. By the start of the production cycle, there are approved course syllabi, so there is an already-established scope and sequence to the course with course learning objectives aligned with the larger program objectives. In collaboration with an instructional designer, the faculty member further plans their courses by distilling course-level learning objectives into individual class session learning objectives that are aligned with assessments and instructional strategies in a course design document. The faculty member works closely with the instructional designer and other team members to articulate media opportunities, technology needs, webinar format, and other course elements that realize his or her course design plan.

During this study, I was a full-time employee at the research site. My job title was Senior Media Producer and, in this role, I was involved with producing video content for online courses. The videos our team produced had a wide range in both purpose and production value; some of the types of media we created include animated pieces, documentaries, guest speaker interviews, content lectures, simulations, scripted scenarios with actors, and other types of videos. We typically produced around 70-80 media assets every semester. While there was a wide range of videos produced, a typical video would comprise of a faculty member delivering content through talking head delivery (with light graphics, images, and text) spanning about 3-5 minutes.

The workflow of the media production process generally began with a meeting between the course instructional designer and a member of the media team. From there, we established a media plan with video assets correlated with explicit course goals or assessments. There were design parameters in place—media pieces that might have a longer shelf-life, with “enduring truths” were prioritized; media that may have potential repurposing potential for marketing goals were also allocated more resources (such as extensive animation). Once the media plan was established, pre-production began. Faculty members created and sent outlines or scripts for review; animated videos were storyboarded. The media team arranged dates for production, reserved spaces for video shoots, and coordinated necessary permissions and/or fees for these spaces. During production, the media team also contracted for any necessary external help; audio, lighting, camera, backdrops, teleprompters, etc. were set up; and the media was produced with faculty members usually delivering the content. In the post-production process, videos were edited one to three weeks after shooting, then a review process occurred involving the instructional designer and instructor. Final videos were compressed, exported, and uploaded to Kaltura (a video-hosting platform) and embedded within the online course on the Canvas platform.

Working as a media producer in this context situated me in an ideal position to research how video is perceived by students and their experiences with online courses. I had daily access to Canvas, Kaltura, and all the sites where media is hosted and/or accessed. I also had an intimate

understanding of the production of these videos and existing relationships with faculty members in the school. I had tacit knowledge of courses, course media, and the organization, which provided me with an insider perspective of the online course environments.

## Methods

Thirteen graduate students enrolled in master's degree programs were interviewed for this qualitative research project. Two programs were considered for participant recruitment: an executive master's program related to technology and management and a master's program related to communications. These programs were selected due to the significant role of media in the course designs, as well as the diverse range of media types. Additionally, both programs have similar student profiles (full time working professionals) but have contrasting curriculum and content which offer a wider range of student perspectives. I recruited interview subjects through email via batch messages to graduate students in two graduate programs at the setting. As an employee at the research site, I had access to student contact information and also had permission from the program directors to email their program cohort regarding participation with this research project.

The interviews entailed in-depth semi-structured conversations, conducted in order to gain an understanding of the "lived experience" of students as viewers, including how they perceived their course videos (Seidman, 2012). Semi-structured interviews have an exploratory nature, allowing participants to provide detailed descriptions of the subject and to reconstruct and integrate the meaning of their experiences (Kvale, 1996; Seidman, 2012). Although the interviews were guided by an interview protocol, they were conversational and allowed for the interviewer to ask participants to repeat, elaborate upon, or clarify topics they discussed.

Participants verbally discussed in both broad and specific terms their viewing, sharing, and watching habits of online course videos. I asked them to reflect on their experiences with course videos and to describe the ways media helped (or did not help) them learn. I elicited their self-reported viewing behaviors, such as if they watched the media to completion. I inquired as to the sociocultural contexts in which students engaged with, attended to, and interacted with the videos: where did the students watch the videos (such as while commuting, at home, at work, at a coffee shop, at a library, and so forth); what hardware devices did they use; and when would they watch (e.g. on their lunch break, or on the weekend). I asked participants if they discussed the videos, and with whom, and if they applied anything they learned from the videos.

In addition to verbal interviews, user experience "talk-throughs" were conducted in the interview sessions, in which participants watched online instructional videos that were both part of and outside of their program content. In these talk-throughs, participants watched videos in real time and discussed what they noticed, what they made meaning from, what stood out to them, and, in general, articulated their viewing experiences and reactions aloud. The user testing talk-through methodology draws its lineage from think-aloud protocols, a type of research method in which participants are guided to complete a task and verbalize their thought processes. Think-aloud protocols emerged from the realm of cognitive psychology (Lewis & Mack, 1982; Ericsson & Simon, 1998) and have been applied in different research settings. In user testing, think aloud protocols became the standard way to evaluate system usability beginning in the 1980s, such as ease of use for a novice interacting with a computer system (Gould & Lewis, 1985). Although users do not typically think aloud when interacting with websites in the real

world (and there is the possibility that using think aloud methods influences participant behavior) performance-based studies have not found differences between think aloud and non-think aloud conditions (Ericsson & Simon, 1998; Olmsted-Hawala, Murphy, Hawala, & Ashenfelter, 2010).

The talk-throughs and verbal interviews were recorded via screen-capture software and audio recording devices. The interviews lasted between 30-60 minutes and were conducted over phone, Skype, and in-person at times convenient to participants. Once the interviews were completed, they were transcribed and uploaded to the cloud-based data management system. The interviews were subsequently analyzed for emerging themes using the data analysis method of grounded theory (Glaser & Strauss, 1967).

### Limitations

There were many limitations to this study. One limitation is that the key research methodology—participant interviews—relied on self-reported data. The aspects that subjects discussed in interviews is what they perceived to be salient, important, or significant to their learning processes and reaching course goals; however, these perceptions may not align with exactly what occurred in their learning processes. People frequently forget details, what they learned, how they spent their time, and so forth. Additionally, there is the potential of self-reporting bias where participants may give answers they believe are desired (for example, participants stating they watched all of the videos in their courses, even if that might not have actually been the case). Also, the interview talk-through methodology creates an artificial environment in which students are reacting to, discussing, and making sense of online instructional videos. This is not the natural setting in which participants would watch these videos, nor does one normally talk through their sense-making of media and their reactions to non-verbal features.

Additionally, the data collection of this study was limited to participant interviews. I did not, for instance, collect other points of information from the online course, such as observations from webinar sessions, online discussion forums, exam grades, or other assessments. I did not ask students (during talk-through interviews) to summarize the content they learned from the video; I did not conduct content analyses of the videos, to see how the content aligned with syllabi or broader programmatic learning objectives; I did not conduct deep profiles of individual students or hold follow-up interviews on the topic of learning experiences.

The term “experience” is both elusive and rich, and interviewing subjects to examine their experiences with online instructional videos poses inherent limitations. Because we are always involved with experience, there is no omniscient view; the ways in which we talk about experience is conditional and given to change according to future events and recountings (McCarthy & Wright, 2004). Bruner (1986) contended that the relationship between experience and expression of experience is inherently problematic, as thinking about and talking about experience changes it and, in turn, our experiences shape our expressions of it. Furthermore, in relation to education, McCarthy and Wright (2004) argue against the distinction between learning and “learning experiences,” as if learning is not an experience in which one is actively involved (p. 50).

## Professional Motivations

Throughout the interviews with 13 students, the centrality of their professional lives, selves, and motivations became evident and these personal contexts shaped their expectations for their online program, courses, and, on a more granular level, their experiences with online course videos. Every participant explained that his or her reasons for enrolling in the program were professional ones, related to future aims such as a promotion, acquiring job skills, or a career change. These personal expectations and anticipatory stances informed their sense-making experiences with viewing online instructional videos. One participant explained his reasons for matriculation: “I wanted to move beyond technical problems. I wanted to learn more management skills, and problem-solving skills.” Another participant explained how he viewed himself professionally, and believed he had gaps in his education and skillset. One student said she enrolled “because I want to learn more, and get better at my job.”

While many of the participants cited improvement of skills or knowledge sets, other explanations more explicitly referred to externalities, such as credentials or résumés. One participant discussed how she felt “it was necessary to get a master’s to compete” in her field. Another explained how he wanted to “strengthen my résumé.” Other interviewees described how they were looking for a career change, such as: “I was interested in this program because I was looking for a career change”; another stated, “I want to transition to a different career path”; still another participant explained, “I wanted to get a foundation in communications and then also transition into a different career—either during or after the program.”

Throughout the conversations I had with students about their experiences with their online masters’ degree programs, and specifically their experiences with online instructional videos, it became apparent that the ways in which they discussed their interactions with videos were often framed in relation to work. When I asked participants questions about where and when they watched videos, their responses were often adjacent to their professional lives—their viewing, and how they arranged for their viewing, was connected to the spaces and times carved out and available in relation to their work schedules and work commutes.

For instance, one participant explained how she approached her viewing of the online videos, and the process in which she would evaluate where she would watch the video:

So I need to know before I even start if this video is something I could do during those five minutes during lunch or ten minutes during lunch, or if it’s something I have to set apart time on the weekend, five hours, and just go through everything. So for me, time is very important, the length is very important. Also, how many. So if I see there’s three videos and they’re five minutes each or three minutes each, I’ll probably be more compelled to do them sequentially, one after another, and bang it out, like I said, over lunch, than I would be to sit down for one 25-minute video.

In this excerpt, the student describes the thought process by which she evaluates the video content, and decides where and when she will watch the video. The primary factor she assesses is the length of the video, which determines her viewing habits—if the video is short in length (“five minutes each or three minutes each”), she will watch the videos when she has spare time at work, during her lunch break. If the video is longer (“25-minute video”), it is something she will plan for when she has more time, such as on a weekend. This echoes other interviews, when participants explained how they would evaluate their time, and assess when and where they could complete their coursework; either on a day when they were not working at all and

therefore had more flexibility (such as a weekend) or during breaks throughout their work day. As other students explained: “Sometimes I watch them at work, which is nice. When I had a minute I could watch them at work” and “sometimes I’ll watch the videos at work if there’s downtime, or during my lunch break.”

In other interviews, participants discussed their interactions with course content—reading materials and watching videos—as occurring on their commutes, the daily time spent traveling to and from work. “I do a lot of work while commuting, mostly the readings,” one student explained. Students described how they often completed work while traveling in the urban subway system, as well as on regional trains. One student who lives on the west coast but frequently flies to the east coast for her job expressed how most of her coursework (including watching course videos) occurs during her regular plane rides. She explained to me, “I’ll download them, save them, and watch them later maybe on the plane during the commute where there’s no wifi.”

The times and spaces in which students consumed course content were often explained in relation to their job—what they could and could not do during their lunch breaks, what they were able to engage with during their work commute, and the technological affordances and constraints of their commute (such as downloading the video to be able to watch in offline spaces). The interview data suggests that the times and contexts in which students are viewing instructional videos shifts, such as between home, work, commuting, on their lunch breaks, and so forth. These fluctuating times and spaces have design implications such as foregrounding the accessibility of course resources by students in shifting times, contexts, and spaces.

### Blurred Experiences

In the interview data analysis process, a pattern emerged that talking about “videos” did not always mean talking about videos. I created a code for this phenomenon labeled “blurred experiences,” a term that references Clifford Geertz’s (1980) “blurred genres,” referring to genre-mixing frameworks “to accommodate a situation at once fluid, plural, uncentered, and ineradicably untidy” (p. 166). In alluding to Geertz’s idea of “blurred genres,” I applied the term blurred experiences to instances when the boundaries of student experiences with online instructional videos were “fluid, plural, uncentered, [and] untidy.” Specifically, the ways in which participants described how their meaning-making experiences with instructional videos *blurs* with other components of the course, such as PowerPoint presentations, webinar sessions, graphical elements of course web pages, and other artifacts. Our research question (how do students make sense of their learning experiences from videos, in an online environment?) foregrounds instructional videos as educational artifacts from which learners make meaning and asks how the video artifacts are interpreted and analyzed by students.

A key theme that emerged in this study is that during students’ meaning-making process, particularly while recounting their experiences with online videos, students often *did not* perceive online instructional videos as distinct, separate elements of their learning experience. Rather, the videos blurred with other educational experiences.

To be clear: it is no surprise that instructional videos are considered in context with other experiences of the course (such as the instructor or how the videos align with the instructional design of the course, e.g., the learning objectives or assignments). The instructional videos are situated in context (on a page, within a unit, within a course, folded under a program, which is part of a larger university); and that learners access the content within a specific context (such as

on a laptop, while commuting by train in the morning). However, my intention as a researcher was that I aimed to focus on a singular element within a broader context—instructional videos—while taking into account the learning environment. Yet the extent to which the experiences with instructional videos were blurred and were not talked about as singular items by participants, was an unanticipated outcome. It underscores the importance of considering how instructional videos in an online environment are part of a larger course ecosystem and the multiplicity of experiences within a singular course.

During participants' discussions about their experiences with online videos their reflections at times focused on other elements. For example, students talked about other elements in the online course curriculum (such as a webinar session, which features live presentations through the web conferencing tool Adobe Connect); or as they discussed videos, they may have mentioned a video, but in the same sentence discussed a presentation that occurred during one of the in-person residency sessions. My researcher position for this project was as an administrator for these online master's degree programs, so I had a degree of tacit knowledge about the online courses/programs about which participants discussed, and this insider perspective helped me more clearly identify the content that students referenced (or mistakenly referenced). However, there were moments when participants explicitly expressed their misperceptions, as one participant stated: "Wait, I'm getting confused between Powerpoint slides and videos." The following sections explain the ways in which experiences with online videos (a) blurred or were confused with other course elements, such as live sessions and Powerpoint slides; (b) blurred contours, where videos were inextricably linked with other course activities, and (c) blurred web pages, where the web context of the video was highlighted, such as the placement of the video on a page or the type of video player.

### **Blurring with Course Elements**

Below are excerpts from interviews that highlight the ways instructional videos—and the ways in which students perceived and made meaning from these videos in relation to their learning—were blurred with other course elements. This blurring occurred on various gradations. On one end of the spectrum, participants were specifically asked to discuss their experiences with videos, and they would talk about an experience that was not related to the videos at all, and instead would explain an occurrence with a different course-related event. Below is one such instance from a participant in response to a question about his overall experiences with learning from instructional videos:

I mean, overall it was pretty good. And it was sort of interesting. There's someone who works specifically to help out and troubleshoot. And that person was really great because if there was any sort of challenge from the professor's end or the student's end, it kind of helped move them along.

The participant in this case was clearly referencing an Adobe Connect session (a synchronous webinar that occurs weekly for most courses), as he was referring to one of the webinar specialists on the internal team who assists with technology and the structure of these online meetings. These conferences incorporate many media elements, such as PowerPoint presentations, web camera discussions, and video; they also include social and interactive features such as polling, chats, and breakout rooms (webinar "rooms" for small groups). While it is unknown why a question about videos prompted the participant to respond by talking about a webinar, there are several possible reasons. A few reasons might include: webinars sometimes include video clips that the instructor uses while presenting; the webinars are recorded and then

saved as video files as a resource for students to access, so these occurrences could be considered videos as well as live events; or the user experience with technology is similar as far as clicking, wearing headphones, and watching a smaller presentation screen. This is one example selected to highlight this phenomenon, although there were other instances where a participant talking about videos was in fact talking about something that was not a course video. For example, as another participant said, in response to a question about learning from the course videos: “Well, it was kind of a comprehensive combination of reading, audio, downloads—things like that—and webinars, conference calls as well.”

Methodologically, while conducting the interviews I made the assumption that participants knew what I meant by video, and so I did not define this term. However, when the participant responded by discussing topics other than videos, I would offer clarification and ask the question again, by referring to specific course videos found in their program (“now let’s discuss the videos found in your site, such as the strategic communications lecture video about soda marketing campaigns”). Communication misunderstandings or language differences are an inherent limitation of interviews (Boyce & Neale, 2006); yet I would argue this recurrent theme of blurred experiences does not solely emerge from methodological constraints. There are examples of participants responding to the question about course videos by discussing a topic (such as a webinar) that is not a course video; there are also examples of participants discussing course videos, yet mid-conversation voicing their confusion (“wait, I’m getting confused between Powerpoint slides and videos”). Below are additional examples supporting the idea of blur, in which students’ meaning-making experiences with online instructional videos blurred with other course elements.

### **Blurred Contours of Videos**

There were moments when participants responded to a question related to his or her experiences with course videos, and replied by talking about something that was not a course video (e.g., a course webinar). However, more typically, a respondent would discuss videos, but the contours and boundaries of videos were blurred and porous. As they discussed their experiences with videos, they referenced many other course elements in the same thought (or the same sentence). This data slice illustrates how one participant discussed videos produced for one course in his technology management program:

And she [the instructor] did all kinds of things, she did the prepared videos that were videoed in your studio, and those were fine, and she did some kind of ad-hoc ones at home, based wherever she was. And there were the WebX sessions which she did when we needed it, and she recorded those and posted those as well.

In this instance, the participant explained videos produced by one faculty member in one of his courses. In this case, the participant describes an example when the instructional videos were helpful to him while learning the course material (specifically, financial math concepts). As he discusses the videos, his explanation shifts towards the effectiveness of the instructor and how she filled in gaps for students who were having difficulty understanding the material. First the participant references how the instructor “did the prepared videos that were videoed in your studio”—the student alludes to content-lecture videos created by the online production team. These were unit overview videos, approximately 5-15 minutes long, where the faculty member explained core concepts and illustrated how to work through math formulas. The videos were recorded in a broadcast studio with professional lighting, audio, and camerawork, although the

production values could be considered as relatively basic with talking head visuals and solid black or white backdrops.

This participant first describes “the prepared videos that were videoed in your studio,” and then explains, “and she did some kind of ad-hoc ones at home.” In that instance, the participant is referring to a series of screen-recorded videos the instructor produced on her own computer, using the screen-capture software Camtasia. The instructor created these videos as supplemental resources for her students and they were generated as a response to the perceived need that students required additional lecture content and exposition. These videos could be described as “lo-fi,” with visuals of Powerpoint slides, audio recorded from the built-in microphone of the computer, and run times of approximately 45-60 minutes.

The third element the participant mentions, “there were the WebX sessions which she did when we needed it, and she recorded those and posted those as well”—in this case, the participant is talking about live webinar sessions, which the instructor held outside of regularly scheduled class times as optional question-and-answer sessions for students looking for additional academic assistance. (These sessions occurred outside of the institutionally supported Adobe Connect webinars, so did not include a technical staff member on hand to assist with facilitation). These webinars were recorded by the faculty member and then posted as video files on the online course site for students to watch, rewatch, download, etc. An added layer to this discussion is that while the participant is referencing the course videos, and how they assisted him with learning, a dimension to this conversation is that the instructor put in substantial efforts to help students understand the material. The faculty member produced additional screen-recorded lectures, and held optional webinar sessions (which were also recorded as video files)—this was added content created outside of the designated scope of the course, and arose in order to address students’ comprehension difficulties.

This data slice is an illustration of the blurriness for students between instructional videos and other elements of the course. The original research question guiding this project is on the student experiences with the instructional videos produced by the online course designers—in this instance, “the prepared videos that were videoed in your studio”—yet students’ perceptions of online videos as it relates to their sense-making, in relation to their learning experiences and recounting of these experiences, is that the videos are inextricably linked to other elements—such as webinars, or “ad hoc” screen-captured videos, or other materials created to supplement their comprehension, not to mention their relationship with the faculty member.

Another example of blurred experiences is that even when specifically discussing online instructional videos (such as “the prepared videos that were videoed in your studio”), many features were described in such a way that elements blended together, or they were described in tandem with other experiences (e.g., in-person residencies, webinar sessions, etc). For example, below is an excerpt from an interview where a student explained how the online instructional videos helped her learning “stick,” and I asked her to elaborate or to give an example of a video that helped her learning stick. She responded:

I don’t think it’s one thing. Everything from class—from when we were in class in person—to going to the platform, watching the video. And the visuals they used in the class and in the videos—they weren’t repeated but it was more like a class or in the video, behind them there’s some kind of a presentation like a PowerPoint presentation to go along with it. Very simple. I would say there are very simple graphics and not a lot of information on the PowerPoint presentations themselves. But because they were talking about it and you could watch them, that just reinforced the information. There was

something visual to remember, there was some information and then there was a lecture along with it. The combination of that just made the learning really effective, at least for me. Versus just going and reading and reading pages of black and white words. The difference for me was very profound.

The participant positively evaluates the online course videos, and explains these resources in relation to her learning as being “very effective” and the difference (in contrast to reading) as “very profound.” However, it is challenging to parse through what exactly is referenced as a *video* in this conversation slice. There are many elements of video that are discussed, such as the graphics, the instructor’s lecture, and the PowerPoint slides; these visuals seemed to contribute with this students’ self-described learning as it helped “reinforce the information” and it assisted her “to remember.” Yet in these descriptors about videos, she combines them with other course experiences—the videos blur with the in-person residency sessions and the online webinars (“the visuals they used in the class”). As she begins, “when they’re talking about something either live, in class or in the video...”, it seems that these experiences run together in her recollection and the edges dissolve between one event and another. An apt way to summarize this participants’ experience with video and her learning is from her first sentence: “I don’t think it’s one thing.”

### **Blurred Web Pages**

Student experiences with videos also blurred with other design elements—such as the web page or the video player. For example, below is an excerpt from one interview where a participant watched a video and completed a talk-through (where he watched a video in the course of his interview and discussed in real-time his reactions). In this instance, the participant watched a video that he had not seen beforehand, as it was a video from another academic program. This video was embedded in a similar but slightly different video player than he was accustomed to. (A video player is the “skin” in which a video asset is embedded; it includes features such as the pixel size, the color, watermarks, closed captioning, playback speed, bandwidth rate, and so forth.)

The participant explained:

I can see that it’s captioned. Now I was a little disoriented at the beginning with this blank space, although it was really just at the beginning. So, this blank space here, I was like: wait, why is this here? And then when the professor started talking I knew that it was because you had captioned the video. I understand wanting to lead with captioning first, but maybe a toggle would be good at some point. But then again I don’t know if there are specific ADA [American Disabilities Act] compliance rules where you have to have captions by default.

This participant, rather than leading with a discussion of the semiotic or non-linguistic resources found within this instructional video—such as the branded introduction, the music, or the appearance of the professor—discusses the elements that are characteristic of the player in his process of “real-time” sense-making. This includes his interpretation of the black space where closed captioning transcription appears; his user-design suggestions (such as a button to turn it off or to default with no captions); and his thinking-aloud considerations of broader institutional policies, such as legal requirements. This theme emerged in other interviews, where participants’ sense-making related to design elements focused on surrounding modes, such as whether the video allowed for full-screen playback, if the player had an auto-play feature, the thumbnail image of the video, if the download feature was available, and so on. The blending of features

both within and surrounding the videos—and the extent to which the web pages and player features were foregrounded—was an unanticipated thematic finding.

### Conclusion

To quote Sherry Turkle, “we have used our relationships with technology to reflect on the human” (1995, p. 24). To extrapolate on that, this study suggests there is a blurred, multi-spatial nature to the ways in which we experience technology. For one thing, our use of technology—and the ways in which we make sense of it—is embedded in the physical world (such as where we watch an online video and on what device) and in sociocultural contexts (such as viewing an instructional video during a lunch break, with broader goals of professional advancement).

The online instructional videos that participants discussed—and the ways in which they engaged, perceived, interacted, and reflected on these media elements—blurred with other factors in their course experiences (such as PowerPoint presentations at in-person residencies, webinar sessions, or the video player or web page in which the videos were embedded). There are implications for these blurred experiences, particularly design implications for content producers and designers creating educational experiences in online environments.

One interpretation is that students make meaning from similar avenues of user experience, (e.g. watching a PowerPoint presentation while listening to an instructor lecture is a similar occurrence whether this occurs via watching an online video or watching it as an in-person event). Similarly, listening to a faculty member deliver information (while watching a slide deck presentation) through a real-time webinar is also blurred with the experience of watching an online video. Another implication is that students’ sense-making of the online videos is tied to where the videos are embedded; the elements of the video player, for instance, are discussed in the same ways the modes within the video (such as animation, production values, etc.) are discussed.

What students talk about when they talk about video is that online instructional videos produced for the course are not always perceived as separate artifacts from other course elements. Student experiences with online videos are influenced by their contexts, including student approaches to the video and the sites in which the videos are embedded. These findings suggest that students have significant agency and the ways in which they take up, interpret, and make meaning from online videos may be different than the intentions of the designers of these artifacts.

These emerging findings have design implications, even though a theme is that users have agency in their meaning-making, and offers a critique of the idea that “experience” can be designed. Although these two contentions may seem to be contradictory or in opposition to each other, I believe they are not mutually exclusive. Design values and practices can exist with the acknowledgement that users have agency over their meaning-making and experiences. Students’ blurred experiences with online video highlights the need for designers to consider instructional video holistically within the design of learning environments, rather than as discrete elements that are incorporated after the design has been finalized.

One implication is that instructional videos should be integrated into all elements of an educational experience—that is, designing instructional videos while considering what occurs in other aspects of instruction such as face-to-face residencies, webinar sessions, and how the videos relate to broader instructional goals. If students are not experiencing instructional videos as discrete content items, then a design implication is that instructional videos should not be

considered (while designed and produced) as discrete content items either. For example, a faculty member could outline or storyboard his or her face-to-face sessions and real-time webinars in tandem with scripting video content lectures, in order to identify instructional alignments (and avoid repetition).

As a side note from my professional role in this research context, although the development team aimed for an integrated instructional design plan, we were segmented into different areas—webinar team, media team, technology team, and instructional design team—and often were not synchronized. In addition, the embedded contexts of the videos (such as where it was placed on a web page, or the video player features) were often just an afterthought. Foregrounding the web design decisions in the workflow could enhance student experiences with instructional online videos. If students are as attuned to the surrounding elements of an instructional video—where it is placed on a web-page, the video streaming settings, the design features of the video player—as they are attuned to the design elements within the video (e.g. the graphics and animation), this calls attention for designers to carefully consider these embedded contexts.

The times and contexts in which students are viewing instructional videos shifts and their viewership is often framed through a professional lens (e.g. between home, commuting, and work lunch breaks). This emphasizes that the act of a student watching an instructional video is a socially situated and contextualized practice. A design implication is that if the times and contexts are always shifting (and in this population, the times and contexts are often evaluated in relation to their professional lives), the design and delivery online instructional videos should take this into consideration. Instructional design practices might include providing instruction lines in the surrounding web page that explicate the length of time of the video and a summary of the content contained within the video. This text narration could note whether there are activities accompanying this video (such as an assignment or a discussion thread). These design components would help guide students in their evaluation of how to view the videos (such as during a short period of downtime while at work or setting aside a larger amount of time on a weekend). Additionally, the design of instructional videos should account for the shifting contexts in which students are watching them. These video artifacts should be able to have playback on a myriad of devices—mobile devices, tablets, laptops and desktops, phones, different browsers, etc.—as well as embody adaptive bitrate streaming settings to account for various Internet connections. Finally, a more user-centered design might include the feature of downloading videos, so that students are able to download these content artifacts so that they are able to watch them during times when they are offline (such as while commuting on a train with no Internet or while flying on an airplane). In closing, this study offers an exploration of student experiences of online instructional videos, in an online graduate course context. Findings suggest that the contexts for watching online instructional videos shifts; and that students have blurred experiences in their sense-making of the video content. Both of these findings have implications for designing more impactful online learning environments.

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