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Lights, Camera, Action: a Focus Group Study Exploring University Students' Experiences of Learning via Zoom

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ABSTRACT

In response to the global Covid-19 pandemic, universities across the world moved coursework online and frequently used Zoom videotelephony software to replicate the experience of learning in a classroom. While this platform supported certain aspects of the traditional classroom, such as immediacy of responses and the facilitation of social interactions, learning via Zoom also differed in various ways from the familiar classroom experience. Although there has been considerable research on online learning, most studies focused on an asynchronous design and interaction. Thus, the understanding of learning within synchronous, video-mediated platforms, such as Zoom, is nascent. In this study, the data was derived from a focus group with eight university students from the United States that was conducted over Zoom. Using content analysis, the transcripts of the focus group's interaction yielded four themes: Zoom Challenges, Zoom Benefits, Faculty Proficiency, and Student Learning Experiences. Cameras, a distinguishing feature of Zoom, could strengthen engagement, yet they also heighten anxiety for some and fatigue for most users. However, when those challenges were mitigated and the benefits harnessed by faculty informed about how to support student learning, students experienced a deepened sense of connection to their peers, the faculty, and their learning. Family science educators who recognize the strengths and limitations of this platform have the opportunity to teach more effectively and support their students' socio-emotional learning and well-being.

Keywords: Zoom, synchronous, online learning, pandemic, socio-emotional learning, video-mediated learning

INTRODUCTION

Novel coronavirus SARS-CoV-2 emerged as a threat to human life at the end of 2019. In the months that followed, the global pandemic and shelter-at-home orders led universities to shutter face-to-face classes, and many students, some with little or no experience in online classes, abruptly became online learners. To facilitate course continuation, many universities adopted Zoom, a video communication platform created for corporate enterprise use. With campus buildings closed, synchronous learning via Zoom, or similar videotelephony platform, rapidly became the new classroom. The current focus group study, informed by a systematic literature review of research on synchronous online

learning, describes results from a focus group of students regarding their experience of a "Zoom classroom," which we use as shorthand to describe online learning platforms largely based on video interactions with an instructor and classmates.

The first model of distance learning arose in the 1800s with universities sometimes offering extension classes and correspondence learning. Delivery methods followed technological advances and by the mid-1990s distance learning moved online (Harting & Erthal, 2005). Although online learning began as predominantly asynchronous, with the student and teacher not necessarily engaging one another in real time, over the last decade educators have increasingly drawn upon synchronous approaches (Martin et al., 2017; Singh & Thurman, 2019). Martin et al. (2017) conducted a systematic review of synchronous online learning research between 1995 and 2014 and found no published studies prior to the year 2000. Because synchronous learning using live video is a relatively recent phenomenon, research into the students' experiences with such platforms has only recently emerged.

LITERATURE REVIEW

Although there is considerable scholarship available on online learning, relatively little research has explored synchronous online learning using video platforms. In the current study, we sought to address the question: What is the student experience of learning via Zoom? In order to understand the scholarship surrounding this question, we conducted a literature review in PsychInfo, a database of more than 2,500 journals, for the following phrases or paired terms anywhere in an article: "synchronous online learning," "Zoom" and "higher education," "Zoom" and "learning," and "Zoom" and "student." Other inclusion criteria comprised publication in a peer-reviewed journal and published in English

Table 1. Articles Yielded by Search Terms

Terms	Number of articles	After narrowed for fit
"Synchronous online learning"	5	1
"Zoom" and "higher education"	1	1
"Zoom" and "student"	19	2
"Zoom" and "learning"	34	10
Totals	59	14
After removing duplicates	3 removed	11 articles remained

between January 2010 and September 2020. This yielded 59 studies. Garris read the 59 articles for relevance, screened for duplication, and ultimately located 11 articles representing two themes: synchronous instruction and blended synchronous learning. Table 1 tallies the articles located by the various searches.

First, synchronous online learning is considered. Lowe et al. (2016) surveyed students and tutors in 2008 and in 2014 and found that perceptions of the quality of the interactions (student and tutor or student to student) decreased over time. Other research suggested engagement may suffer over time because learners' cognitive resources are taxed more by virtual environments compared to real-life learning encounters (Blau, et al., 2017; Francesscuci & Rohani, 2019; Kock, 2005). However, Weiser et al. (2018) noted that participation was highest when instructors explicitly engaged their students, which draws attention to the potential for the educator to transcend the limits of the new learning environment.

A second synchronous approach involved broadcasting classroom teaching to satellite campuses or learners in remote locations: Blended Synchronous Learning Environment (BSLE) (Wang et al., 2018; Yang et al.,2019). A literature review on BSLE suggested that flexibility and convenience aided students, but these benefits were countered by the dual challenges of juggling learners at multiple sites and the potential for technological difficulties (Raes et al., 2020).

Covid-19 resulted in some educational institutions rapidly shifting to exclusively synchronous online learning platforms. Considering the rapid and wide adoption of Zoom or similar video-based learning for educational purposes during 2020, educators needed insight into the students' experience with this new virtual classroom experience. The purpose of the current study was to understand the student experience with the Zoom classroom, which we defined as one teacher at one location facilitating learning synchronously with students in highly varied settings.

METHODS

Reflexivity

We are all family science educators. Dr. Garris is an associate professor of Counseling and Human Services. He has been teaching online

synchronously since 2002 and has been lightly involved in both the scholarship of teaching and learning and faculty development. Dr. Novotny is an assistant professor of Counseling and Human Services. Her scholarship includes diversity education (specializing in gender and sexuality studies), high impact practices, and student success. Dr. Novotny has taught asynchronous courses since 2016 and recently transitioned to synchronous learning. Dr. Ko is also an assistant professor of Counseling and Human Services. His research interests lie in family support behaviors and motivation.

Recruitment

The East Tennessee State University Institutional Review Board (IRB) approved the study design on June 23, 2020. Following approval, we contacted four faculty colleagues who had recently taught synchronously via Zoom. Those faculty members supplied the names of former students who might consider being part of a focus group concerning the student experience of learning by Zoom. We contacted those potential participants by email, and if the prospective participants indicated they might have interest, we sent another email detailing the protocol and providing an informed consent form. Garris contacted participants to address any questions they might have. Finally, only the students who returned the signed content form were included in the focus group.

From an original list of 54 students, ten expressed interest in participating. We proceeded with a focus group of eight participants, which included five graduate and three undergraduate students from two public colleges in the United States who took synchronous online classes using the Zoom video platform. All participants were female with ages ranging from 20 to 24 with one exception who identified as over 27. Five graduate participants majored in Counseling, two undergraduate participants majored in Human Services, and one studied Biochemistry.

Procedure

We adopted a focus group study design (Barbour & Morgan, 2017; Carey & Asbury, 2016) followed by content analysis of the transcripts. Considered client-centered and efficient, focus group research has become a staple of education research (Gilflores & Alonso, 1995). Given the relative novelty of the scholarship and the consumer focus of the research question, we selected qualitative research using a focus group design for data collection. The Covid-19 pandemic led regional institutions to impose limits on face-to-face activities during the summer of 2020; consequently, the focus groups participated in the study using Zoom.

We conducted the initial focus group in July 2020. As the session began, we introduced the purpose of the research and spoke briefly about focus group research. We then proceeded with semistructured interview questions noted below.

- How is the learning experience on Zoom different from the learning experience in a classroom?
- How are social interactions on Zoom different from social interactions in the classroom?
- What do you see as benefits and challenges to the Zoom classroom?
- What advice would you give to your professor regarding Zoom?

When we completed the focus group, the Zoom platform provided an initial recorded transcript, which we used for analysis.

Analysis Plan

Researchers Garris and Ko worked separately to apply a content analysis approach to the data (Hsieh & Shannon, 2005). Using this approach, we focused on the data itself, avoided a priori categories used in previous studies, and developed meanings and insights inductively based on participants' stories. We followed the data analysis procedure of decontextualization, recontextualization, categorization, and compilation (Bengtsson, 2016; Erlingsson & Brysiewicz, 2017). During decontextualization, Garris and Ko independently read through the transcribed texts, reduced content into smaller meaning units, and developed codes. In the recontextualization stage, we independently reviewed whether the meaning units and codes generally captured all aspects of the content. In the categorization stage, we condensed the meaning units and codes into categories and themes. Finally, in the last stage we considered the way in which the most abstract groupings—the themes—interacted with one another. Upon completing these tasks individually, Garris and Ko met and discussed

the codes, categories, and themes. After arriving at consensus, we turned over the data and our analyses to Novotny. In this compilation stage, Novotny served as a peer debriefer, reviewing the consensus codes, categories, and themes and making suggestions for revisions.

We entered and recoded the transcripts in Dedoose according to the framework that arose from the completed analysis. Although we worked independently, we reviewed one another's work, which provided the opportunity to reconsider the original text for code-transcript fit. As a final analytical step, we developed a conceptual model based on the codes, categories, and themes that would suggest the way in which the categories interacted with one another. We shared our analysis results in a second Zoom focus group with the same participants. The interviewees concurred with our findings.

TRUSTWORTHINESS

Through our research design and implementation, we sought to support the trustworthiness (Lincoln & Guba, 1986) of the findings by purposefully addressing credibility, dependability, confirmability, and transferability. Regarding credibility, Garris and Ko analyzed the data independently, discussed the analyses, and brought their findings to Novotny, providing a measure of triangulation. Novotny, who was not invested nor involved in the initial analyses, functioned in a peer debriefing role. Subsequently, the focus group participated in member checks with the focus group to invite their criticism and feedback. Dependability, that is the stability of the findings over time, was supported by use of a conventional content analysis approach (Hsieh & Shannon, 2005). Confirmability addresses researcher neutrality and recognizes the intersubjective nature of meanings. This was aided by reflexivity and the analytic process, which employed independent and collaborative efforts to share in the development of meaning and minimize the likelihood that the product was a single person's creation. Garris and Ko conducted the analysis separately and then collaboratively. Novotny contributed as a peer debriefer and adjusted the emerging model slightly. Ultimately, the Dedoose software served as a platform for a collaborative final coding of the transcripts. Although we do not provide rich detail about the focus group participants, the thick description of the conversation will provide the reader with the needed background to determine transferability of the findings. We thoughtfully employed many steps to ensure the trustworthiness of our findings. Privacy was maintained by using pseudonyms for participants.

RESULTS

Four general categories emerged from the interviews: Zoom Benefits, Zoom Challenges, Faculty Proficiency, and the Student Learning Experience. The categories are not prioritized, sequential, or overtly directional, although skilled faculty could harness or mitigate certain Benefits and Challenges and bring about a more desirable student learning experience.

Zoom Benefits

Participants noted that Zoom classes offered some benefits that were not entirely unique to the platform but shared by online learning more generally: being at home, avoiding commutes and parking, and having a more flexible schedule. The students observed that active and learner-centered pedagogies were especially important in this format. This is commonly accepted as true in face-to-face pedagogies; however, the participants indicated that active pedagogies were especially critical to the Zoom learning environment. Faculty who employed learner-centered approaches, such as facilitated discussion and small group discussions in breakout rooms, utilized Zoom as an effective learning tool. These benefits were common to learning more generally.

Participants also described benefits more specific to Zoom. First, they noted the ability to record the classes. This provided students opportunities to review portions of class they found difficult or perhaps missed. Participants also identified Zoom's transcribing feature as helpful. Also, they could enlarge slides for easier readability. Finally, the teacher could integrate Web resources more easily into learning.

The presence of a camera distinguished Zoom learning from other synchronous and asynchronous learning experiences. They offered mixed views regarding the use of their camera during a synchronous Zoom class. Students expressed that having the camera turned on created a social expectation, which added a higher level

of accountability and created a dynamic that more closely resembled an in-person classroom. KH commented, "I did notice the couple times that I had my camera off. I was just like off doing whatever. So, definitely, keeping the camera on helps."

The students noted that the camera contributed to positive engagement and increased likelihood that they would participate in class discussions. According to CP, "I definitely am way less distracted when the camera is on. I find myself paying a lot more attention."

Zoom Challenges

Zoom Challenges arose as our second main category. Students contended with internal challenges: Zoom classes felt more draining, the fatiguing effects of screen time during a day was cumulative and students described headaches and exhaustion. Participants would also self-distract to deal with stress or lessened interest. Other Zoom challenges coalesced around the subcategory of external challenges. These challenges included interruptions in technology and environmental distractions that were identified as problematic by all participants. Unstable internet connections led to video feeds freezing, intermittent connections, or disconnection from Zoom entirely, resulting in frustration and anxiety for students.

SG: Well, I have this thing where I get kicked off then get back on and I get kicked off and I have to get back on, and by the end of the day, I don't have any of the class material and I really struggled with that aspect of it.

MW: I completely agree with the WiFi negative stuff. My mom has been working from home also … I'm currently in my bedroom because it's the best room, other than my parents' room.

Zoom adversely affected the development of shared, distributed, and accessible class knowledge. Face-to-face classes create social systems and, in a Gestalt manner, they contain more than just the knowledge of the individual class members. Knowledge involves social construction, and the classroom serves as a social repository of that knowledge. However, in Zoom classes the informal side conversations of "What did the teacher mean by this?", "What did she just say?", and "When is the test?" ceased. CP said,

The 10 minutes before class are so crucial to like making friends or just even catching up or figuring out what the homework was if you did it right, or whatever … everyone is silent … you want to have a conversation with one person and you can't or everyone hears it … The loss of camaraderie was huge for me

Research participants spoke of the ways in which their knowledge was often incomplete because of a hindered ability to engage with one another casually during lulls in class time, to participate in structured group work, and to participate actively in class discussions. ES highlighted the disruption in shared knowledge when they said, "I think you do lose, just like the shared knowledge between you and the person who sits beside you." Consequently, Zoom classes developed less shared knowledge and experiences compared to in-person learning.

Finally, several Zoom challenges arose specific to the camera. Just as students experienced mixed feelings and different levels of comfort speaking during an in-person class, students expressed a similar range of emotions, specifically anxiety and self-consciousness. Thus, although the camera supported engagement and accountability, it was also a source of anxiety for a small number of participants.

Faculty Proficiency

Both Zoom Challenges and Zoom Benefits interacted with a third category: Faculty Proficiency. In this category, faculty skill and pedagogical approaches blended with Zoom challenges and benefits and independently contributed to the students' experience of learning. Technical difficulties and a lack of familiarity with Zoom features proved frustrating and adversely affected learning. SG explained, "My instructor has been trying to use breakout rooms, but she has trouble getting the rooms to work properly." ES elaborated, "Sometimes my teachers would miss what was in the chat and that kind of feels useless at that point." Students expected instructors to have a measure of technical competence with the Zoom platform: screen sharing, breakout rooms, and chat. Lacking this, a few faculty essentially surrendered. ES highlighted this when they said, "I also think some of my teachers this past

semester just chose to not do any sort of Zoom because there is a hesitation of maybe not feeling adequate in how to work it. So they just chose not to."

The category of faculty proficiency was broader than Zoom technical skills and included classroom management and pedagogy. Participants emphatically noted that passive approaches detracted from their learning. Students disengaged when the instructor lectured for extended periods of time or did not include a variety of instructional methods in the lesson.

On the other hand, students reported that some faculty used Zoom with ease. Focus group participants described varied learning activities that sustained engagement. This could take the form of assignments, discussion posts, experiential activities, interacting across complementary technological sites such as Google Docs or Flipgrid, and small group tasks completed in breakout rooms.

Students recognized the importance of classroom management as it related to promoting social interaction. Participants suggested opening the Zoom space prior to the start time of the class to allow students to talk among themselves. Small group work supported informal interactions. As KH noted,

> We'd have two to four students in a smaller group. And that was nice because it felt like we were in a classroom again because we were in small groups. Nobody likes group work in a classroom, but over Zoom it's nice because it's like "oh, this is more like a normal aspect of class."

Finally, faculty proficiency in classroom management proved to be an important area of impact on the students' experiences. Students reported that they were more engaged in the class when the instructor was responsive, flexible, and attentive to students in all aspects of the Zoom class (e.g., questions in group chat, hand raise feature, etc.).

Student Learning Experience

Zoom Benefits, Zoom Challenges, and Faculty Proficiency impacted the student learning experience in two areas: socio-emotional and the acquisition of new knowledge. Socio-emotional learning is a key component of the college experience. A large body of research defines socio-emotional learning generally as those classroom experiences that promote resilience, emotional regulation, and adaptive responses to challenge (Durlak et al., 2011; Weissberg et al., 2015). The scope of skills that fall under the umbrella of socio-emotional learning is broad and beyond the scope of this research.

In the current study, participants identified three ways that important emotional connections were made through Zoom-mediated learning: connection to the instructor, connection to peers, and connection to content. These three socio-emotional areas directly contributed to the students' learning experience, their investment in the course, and their connection to the classroom. The connection that students described did not simply pertain to co-constructing knowledge but alluded to a connection in their relationships and common experiences that ultimately impacted their learning.

Part of the college experience includes students getting to know their instructor and their classmates. Our participants reported that it was easier to connect with and get to know their instructors through Zoom than a physical classroom. As SG said, "It's kind of nice having my professors say 'sorry my cat's really loud,' or 'I live out wherever and power goes out sometimes—so sorry.' It just makes them much more personable." Informal interaction with self-disclosure and vulnerability on the part of the instructor was received positively by students. ES stated, "It just makes them way more approachable. You realize they're not just professors." In addition, students spoke of having more one-on-one time with their faculty. As CM said, "It's more personable and my question is more answered in depth more. They're not rushing off somewhere else."

Relationships with classmates were less uniformly positive, though. Students were apprehensive about communicating with one another in the larger Zoom class, but small group work was the exception. Some participants even went so far as to request that their faculty assign additional small group work because it met a social need that had gone unmet since classes were moved online. This sense of connection also carried forward to the content. The learning felt more meaningful, especially as compared to an

asynchronous class. As CP articulated, "It feels like you're in it. It feels like you're in a class instead of just doing work."

Overall, the students agreed that Zoom resembled some key aspects of the physical classroom that asynchronous courses failed to replicate. Through Zoom, students engaged and interacted with their instructor and classmates in real time. They viewed the instructor's presentation slides through screen sharing. Perhaps most importantly they shared a common experience, felt connected to one another, and enhanced their engagement with the course material. This contributed positively to their learning experience.

Our analysis produced two data displays. The first display, Figure 1, provides a simplified overview of the findings and suggests relationships among the categories as denoted by participants. As depicted in this graphic model, Zoom Challenges and Zoom Benefits affect Student Learning. However, some of these challenges and benefits can be, respectively, mitigated and maximized by Faculty Proficiency.

A more detailed data display, aided by Dedoose software, is found in Table 2. This table identifies and tabulates the broad themes, the narrower categories, and the codes that arose from the data.
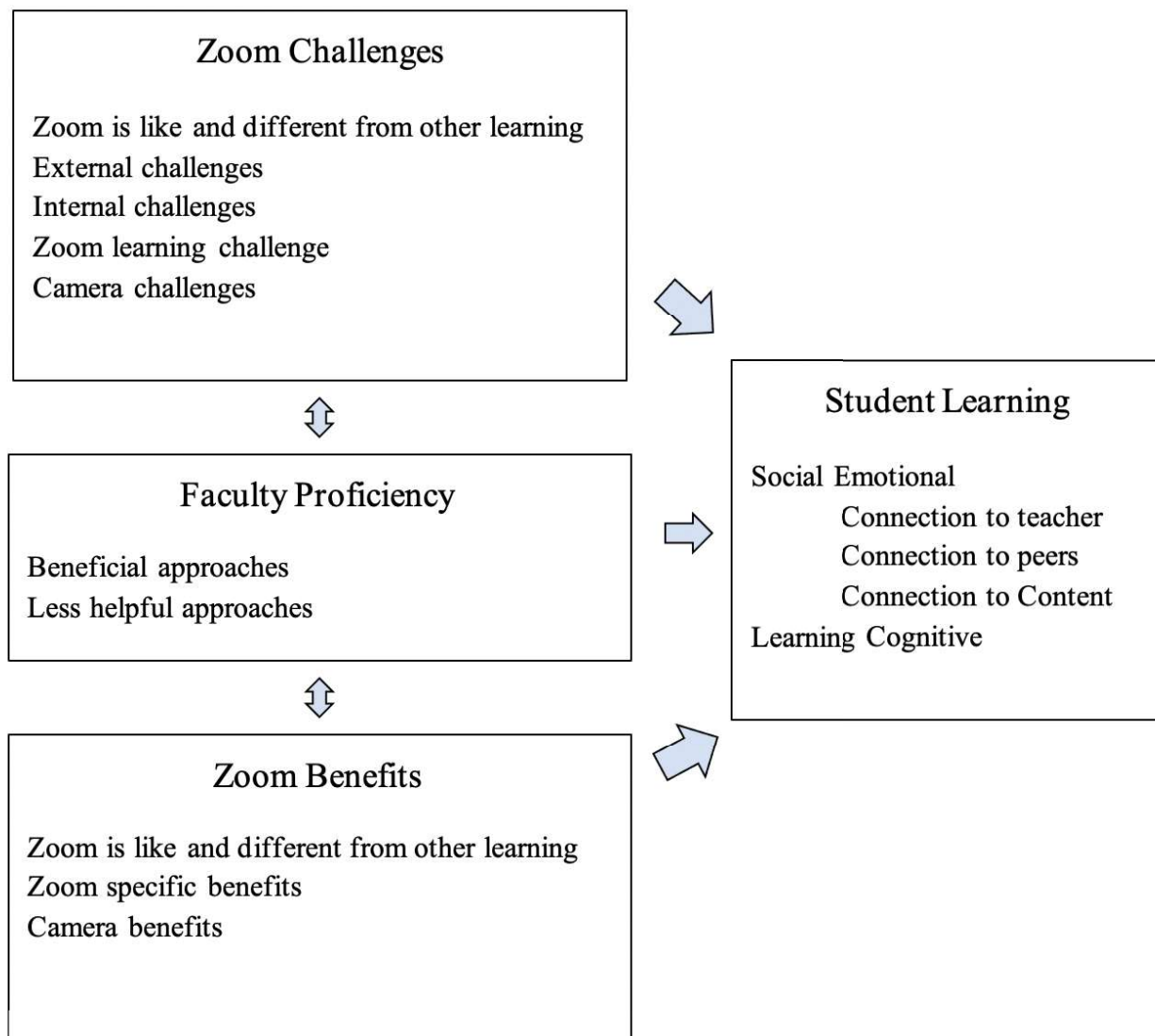

Figure 1. Elements of Learning by Zoom

Table 2. Frequency of the Themes, Categories, and Codes (N = 196)

Themes (N, percent)	Categories (N)	Codes (N)
Zoom Benefits (43, 21.9%)	Zoom is like and different from classroom and asynchronous formats (22)	Less anxiety (2)
		Convenience (9)
		Active pedagogies help (9)
		Familiar (2)
	Zoom specific benefits (10)	Recording (5)
		Chat (1)
		Transcript (2)
		Enlarging (1)
		Online resources (1)
	Camera (11)	Creates social expectation (3)
		Contributes to engagement (5)
		Promotes dynamic resembling classroom (3)
Zoom Challenges (63, 32.1%)	Zoom is like & different from classroom & asynchronous formats (24)	Less engaging (3)
		Prefer On Ground (7)
		Social (14)
	External challenges (23)	Connectivity Issues (8)
		Screen time, quantity, exhausting (6)
		Distractions (9)
	Internal challenges (4)	Less Motivated (4)
	Zoom learning challenge (6)	Loss of class knowledge and social (6)
	Camera specifics (6)	Headaches (1)
		Anxiety (5)
Faculty Proficiency (32, 16.3%)	Beneficial approaches (18)	Casual groupings (8)
		Classroom Management (4)
		Variety / multimodal (6)
	Less helpful approaches (14)	Negative outcome (confidence) (1)
		Passive approaches (4)
		Technical fails (9)
Student Learning Experience (58, 29.6%)	Socio-emotional (57)	Connection to teacher (23)
		Connection to peers (27)
		Connection to content (5)
		Resembles classroom (2)
	Learning-cognitive (1)	Learn Better (1)

LIMITATIONS

We identified several limitations of the study. First, all participants attended one of two public universities in a single state, the convenience sample was skewed toward those studying the helping professions, and all participants were female. Further, research findings might be thought of as a snapshot in time, reflecting initial student learning experiences during the summer of 2020 at a time when the United States was approximately four months into the pandemic. Participants indicated that they had little or no prior experience with Zoom. Faculty also had only beginner levels of Zoom proficiency, having switched from the classroom to synchronous online instruction with little notice or training. The universities

represented in our studies did not have policies concerning camera use in spring or early summer 2020. Findings might well be different in the future if learning with Zoom becomes common.

DISCUSSION

In 2020, many family science educators incorporated live video into synchronous online learning in an effort to recreate the face-to-face classroom learning environment as much as feasible. Consequently, research into the video-mediated, student learning experience is timely, foundational to related future scholarship, and connected to the literature. Our research offers insight into student exhaustion, active learning, and engagement in video mediated learning.

Exhaustion

Participants described a heightened sense of exhaustion arising from Zoom and located this in the Zoom Challenge category. Screen time felt different and more wearying than face-to-face class meetings did. The students conjectured that this difference was owing to a measure of relaxation or social engagement with peers that might occur in a classroom setting. In contrast, students felt more self-conscious or spotlighted in the Zoom classroom and believed there was less opportunity to disengage. The research literature described earlier offered an alternate explanation. Media Naturalness Theory (Kock, 2005) proposed that communication that limited communication cues (i.e., body language, intonation, facial expressions) strained cognitive processing. Although video-mediated learning resembled classroom interaction, it was not identical. Whether a heightened self-consciousness or an information processing challenge, learning by Zoom could be exhausting.

Active Learning

Our research found that the effect of online, active learning approaches greatly aided engagement. Students consistently reported that breakout groups, periods of reading-discussing, and talking through issues with peers kept them engaged, helped them learn, and sharply contrasted with lecture. This aligned with previous research. A meta-analysis of 225 studies by Freeman et al. (2014) found active learning (N = 158) significantly increased comprehension when compared to a traditional lecture format (N = 67). Not only does active learning affect information and concept retention, a review of the literature reported that active learning supported affective student elements, such as satisfaction, efficacy, enjoyment, engagement, and attendance (Borrego et al., 2018).

Students often experience lectures passively, possibly even more so when the lecture occurs over video. Consequently, it may be ill-advised to rely on Zoom for the didactic dissemination of information. Rather, our findings support Zoom as a vehicle for flipped classroom principles, and we urge faculty to prioritize Zoom as a context for various discussions, such as case study, application, and problem-based learning (Bishop & Verlegger, 2013; Gilboy et al., 2015; Herreid & Schiller, 2013).

Socio-emotional Learning and Family Science

Family science draws attention to the importance of relationships, and not without good reason. Data displayed in Table 2 demonstrated that the most salient feature of Zoom learning for our participants was connection: connection to faculty, connection to peers, and connection to, or caring about, content. Online learning with Zoom appeared to strengthen these socio-emotional aspects of learning. This corresponded with the findings from a literature review completed by Delahunty et al. (2014). Their review found support for the interrelationship of social interaction, a sense of community, and the development of student identity in that social space that is online learning. Though the Delahunty review focused on asynchronous learning, our research, addressing real time video interactions, suggests students likely also derived similar socio-emotional benefits from Zoom-mediated learning.

Of note, participants described a deepened connection to faculty. In the classroom, the family science educators worked within generic, institutional contexts, such as fluorescent lights, workstations and podiums, desks, and classrooms devoid of personal information. By contrast, in the Zoom classroom, faculty broadcast from their homes, replete with children, barking dogs, house projects, and personal information. Codes pertaining to faculty connection (N = 23) was second only to connection to peers (N = 27).

Focus group participants insisted that seeing their professors in their natural habitat humanized them, made them more relatable, and thus more approachable. Students likely benefit in multiple personal and professional ways when they perceive their faculty as approachable (Komarraju, et al., 2010). Participants noted an increased willingness to interact with faculty following the shift to Zoom.

This connection in learning matters. An abundance of scholarship shows the well-being of youth improves in response to socio-emotional learning across a range of measures (Taylor et al., 2017). The pandemic, which catalyzed the movement to learning by Zoom, may have made socio-emotional learning more important. Stay-at-home mandates led to isolation and loneliness, and the loneliness led to an increase in depression and suicidal ideation in some cases (Killgore et al., 2020). A sense of classroom connection, mediated by video, may mitigate isolation and subsequent depression. Research suggested these relationships would also help the student cope with significant stressors, such as the national pandemic (Cohen & Wills, 1985; Feeney & Collins, 2015; Holt-Lunstad & Uchino, 2015). The importance of video connection to supporting socio-emotional learning can hardly be overstated.

Faculty Proficiency and Family Science Education

Our study identified Zoom Challenges and Zoom Benefits, but between external or learning platform factors outside the instructor's influence, there remain a range of actions a faculty member could take in order to maximize student learning, such as discussions, small groups, and using and responding to Zoom reaction emojis. Unique classroom management strategies, such as attending to chat questions or asking a student to attend to chat questions or comments and report to the class the gist of the chat discussion, could support engaged learning, especially among students who may be less likely to speak up on camera, but are more comfortable "texting" responses.

A Zoom-mediated class presents learning opportunities that are somewhat unique to family science educators when compared to traditional classroom learning. Students who are learning from home or a residence hall likely have access to a wealth of personal memorabilia and symbols that can contribute to a discussion about family and relationships. For instance, the family science educator may ask students to engage in a scavenger hunt in their space and locate items that represent coupledom, attachment, strengths or resilience, or sibling relationships. Examples of such objects could include photographs, gifts, trophies and certificates, or art. Further, students might be invited to look around their room, contemplate who they are in a classroom, and then speak about the way this reflects differences between public and private domains. Objects brought into view may spark a class Zoom conversation about family culture and values. Family science educators may lead a discussion about the process by which the student was first moved into a residence hall, how necessities were procured, and what this may indicate about gender roles, family involvement, or family resource management. Moving the learning from the more public sphere of the classroom to the more private realm of the student's personal space affords an abundance of new ways to interact with a family science curriculum. Faculty are, to use a colloquialism, education's secret sauce (Feldman & Newcomb, 2020; Jankowski, 2017). This did not change when the classroom moved to Zoom. Arguably, it became more important. Family science educators should be intentional about using Zoom and their role as faculty to attend to the socio-emotional well-being of their students. The pandemic has resulted in economic dislocation, uncertainty, loss of control, and social isolation for many people. Building a classroom community via Zoom offers the potential to support the university student's emotional health and resilience, goals that align with the family science aims of prevention.

Qualitative research is by nature exploratory. Future research might clarify the nature of relationships that exist between the Zoom Benefits, Challenges, Faculty Proficiency, and the Student Learning Experience. In addition, there are gaps in the literature regarding socio-emotional learning in postsecondary contexts. When this scholarship and corresponding assessment matures, it would be beneficial to compare the socio-emotional effects of asynchronous online learning with video-mediated learning for students. This question may be most

critical as we encounter a near-term educational landscape marked by rolling quarantines and school closures, and a long-term educational future that might be forever changed by video mediated, online learning.

DECLARATIONS

Funding

Not applicable.

Availability of Data

The data collected in the current study are not publicly available because of the requirement to protect the personal information of focus group participants.

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