Students' perception of assurance, utilization of a pilot program: Synchronized online discussions

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Abstract

The IRB-approved research focuses on information technology students' (n=23) perceptions of comfort, confidence, and utilization of the pilot program to understand its value. The study questions the usefulness of academic instructors in higher education at a Southeastern Atlantic University's model to employ online synchronized lectures in LMS systems. The goal of the program focused on reducing anxieties and distance separation from online learners. The researchers' observations cannot be generalized to state that synchronized virtual appearances create an increase or propensity for online student retention. However, the research highlights positive student perceptions of comfort, confidence, and utilization of the program, like the use of embedded librarian program. Additionally, the findings indicate parallel considerations of students' perceptions of embedded programs and suggest limited notes of perceived greater levels of self-efficacy. Furthering, the researchers disclose a larger need for a cross-generational quantitative study and note the geographical limitations, socio-economic constraints, and technology gaps limitations create the inability to generalize the study to a larger population.

Keywords: Online discussion tutor, course-integrated supplementation, online instruction, students' perception

Introduction

Scholars have researched since the 50s how, why, and under what conditions early adopters accept innovation, technology, or information systems transformations (Venkatesh & Davis, 2000). The spontaneous adoption or the acceptance of an innovation or new technology is often from an opulence investment rather than an essential necessity. Many researchers contend that technology is deconstructive. As an example, Turkle (2011) described technology addiction–particularly the phenomena of smartphone connectivity compulsion–as prolific in society and the root cause of social disconnection and communication breakdown. Furthering, Sukenick (2012) explains technology has silenced our social world. Spangler (2015) extends the argument to include a description of a society riddled with anxiety, nervousness, and fear of disconnection. But this is not true for all innovations in technology. In academics, innovations in technology have decreased the literacy gap, increased student retention, and opened doors for disenfranchised (poor or geographically challenged) students to gain access to the best education. Additionally, technology innovations in higher education have fostered greater diversity and equality.

But today (2022), academics are faced with a constant alarm of disconnection with their students from administrators. The acceptance of distance learning management systems–and students' desire to learn from the comfort space and time of their choosing–have generated new frontiers for educators (faculty) to navigate successfully. To counter the detachment and physical separation faculty face from distance education, new innovations in information technology are being engaged to decrease face-to-face distances

and students' separation anxieties. This research seeks to understand students' perceptions of one instrument being used by faculty members to increase online learning acceptance and reduce distance learning anxieties–synchronized virtual supplemental lectures.

Literature

The structure of discourse

Hindle's (1998) research defines a meeting as two or more people coming together at a prearranged time and place to resolve problems or make decisions. To understand this deeper, the paper will assign meanings to two meeting styles: formal and informal meetings. Formal meetings are held at definite times, at definite places, and usually for a definite duration to follow an agreed-upon agenda (Meeting, n.d.). Conversely, informal meetings might occur almost anywhere and usually do not have an explicit planned agenda (LeBlanc & Nosik, 2019). Leach, et al. (2009) identifies characteristics that impact the perception of a meeting. The scholars contend meetings have traits that depict or identify participants' perceptions. Participants can identify the meeting (face-to-face or virtual) as being a good meeting if these characteristics are established or a bad meeting if the traits do not. The characteristics include the use of an agenda, keeping of minutes, punctuality, an appropriate meeting environment, and having a meeting leader. In the face-to-face discourse, meetings have clear locations and physical recognition. Research shadows that the introduction of meetings into the online synchronized forum is difficult. Tu (2020) ascribed online virtual meetings or "interactions are lacking engagement. People feel limited in their interactions compared to in-person meetings" (1). The research stated the necessity or dramatic incline in virtual meetings is directly correlated with the onset of the global Pandemic. The scholar notes "The pandemic gave rise to online meeting tools and made meeting online the "new normal" for many people (p. 1). The human-computer interaction (HCI) aspect of the communication channel is not new. The information system has been widely accepted and utilized in the business and educational online education domain for over a decade. The synchronized discussions in virtual Learning Management Systems (LMS) have been often used by innovative academics to further their face-to-face classrooms or online presence to distance learners.

Online Learning Management Systems

Learning management systems allow educators to increase communication, distribute learning materials, and foster learning assessment. Learning management innovations or platforms are "independent of time and place" (Mayadas, 1997, p. 2). Additionally, the platforms can increase human interaction between students and instructors, which may foster a sense of belonging and reduce feelings of isolation. Millasaps (2013) notes learning management systems can "centralize" distance learning and circumnavigate real-time access issues from geographically displaced learners, and learners with disabilities, and eliminate literacy gaps. Alabbasi (2018) noted learning management systems were the new normal prior to the onset of the global Pandemic and an accepted learning model for distance education and non-traditional students seeking higher education. Putri & Suryaman's (2022) research totes online learning (e-learning) is now 2022 a "fundamental part of the learning process. Educational practices previously conducted in face-to-face activities have been discontinued to prevent the spread of the coronavirus" (p. 109). The information system innovative platforms such as "Zoom" have become essential "learning environments with features such as a virtual whiteboard with the ability to "break rooms for creating small collaborative group work, polls for student feedback, and chats to facilitate class discussion. In addition, Zoom meetings can be recorded and made available for future reference" (pp. 110-111). The recordings and ability for listeners to translate, pause, or review a speaker's meanings can help reduce anxieties and discourse miscommunication.

IT students' perceptions of online learning

The majority of universities have transitioned to online-based offerings through learning management systems prior to the Pandemic and further their reach afterward. Prior research into students' perception of online learning and support has already determined positive qualities for the past decade. Research by scholars Green et al. (2010) noted during the early onset of virtualization that the virtual presence or assistance increased students' perceptions of comfort by (30%) and confidence in overall abilities by (16%) when working or having the ability to connect online for assistance. Spangler et al. (2020) evaluation of "students' perceptions of embedded tutors in online and hybrid courses established embedded forms of learning can provide students with the confidence, comfort, and self-efficacy components, which indirectly lowers the transactional distance of the learning experience.

Learning in an online format has increased in recent occurrences because of the global public health crisis. Synchronized online discussions are a modern innovation to facilitate a more experiential learning environment for those who have university courses in an online format either partially (hybrid) or completely (Alsuqaih, 2020). Shumaker (2014) states traditional in-person university professionals "need to be fully read into the nature of the work being performed" and "need a full understanding of the nature of the task and the goals of the effort" to accomplish the objectives of the services (p. 5). The transition with online integrative functions creates a seamless method of the continuation of discussions and engagement. The research dictates that developed relationships with the typical tutor, librarian, faculty, and staff are crucial but difficult to maintain in a virtual platform but are assisted with chat-like features. Synchronous online discussions project as a direct method to create trust, get a better knowledge of tutors' roles in learning and collaborate alongside the instructors and faculty. As an example, medical education was critically hit and in need of virtual effective medical learning. Khalil et al. (2020) conducted analytical research by studying the students' perceptions addressing synchronized online medical learning at Unaizah College of Medicine and Medical Sciences. The study determined that the individual perceptions of the medical students were positive towards online modules of synchronized medical learning as the integrated "instructional method helped empower learners in controlling their educational needs constructively and provides them with structured guidance for self-directed learning" (Khalil et al., 2020, p. 7). The medical pedagogy reviewed included discussion forums for interactive case discussions specified in the medical curriculum.

Synchronized online embedded tutoring

O'Brien's (2020) research at the State University of New York Genesee Community College notes how the COVID-19 Pandemic forced student services to become accessible virtually quickly and correctly. One of the largest obstacles O'Brien and her department faced during the transformational period was understanding the technological hardware undertakings and forming a plan to learn the software needed to continue the services virtually. To accomplish the task, the scholar "inform[ed] [her] staff to take whatever they think they'll need for the rest of the term home, including technology" (p. 53). Asa scholar, the academic's literature frames gave insight on what the transition might need to successfully navigate the transition from a regular in-person tutoring service to a virtual online instructional service. The research found by utilizing user-to-tutor chat functions students and academic leaders create a seamless communication channel to foster success. Similarly, Matteson's (2020) research states online resources like discussion boards and other forms of direct engagement with students in virtual classes need to be available, especially after the pandemic. The current increase in human-computer interaction virtualization instruments has changed higher education on a global scale (Matteson, 2020). The researcher noted at the start of the Pandemic professors "are quickly moving their instruction online to manage the restrictions of social distancing or because some or all of their students are learning remotely" (p. 24). The effects of the

Pandemic overall changed the methods of communication for instructors, librarians, or specialists in higher education.

Pandemic communication

Mendoza and Kerl's (2021) research on synchronized embedded virtual discussion programs found that the services functioned stronger at a macro level. The study on users' activities and how the programs affect the efficacy through online chats. The research highlighted how Online Learning Assistants (OLA) are proven and integral teaching tools. The research noted the professors' "assistants" or LMS embedded tutors are constructive and effective measures to increase student retention. The study focused on online embedded tutoring programs in undergraduate concentrations. Mendoza and Kerl's research noted that direct virtual communications ultimately expanded the definition of a traditional tutor and enhanced distance learning (p. 57).

Sonn et al. (2021) case study finds that the "traditional university" continues to "operate in crisis response mode to the COVID-19 pandemic" (p. 10). The case study determined integrating discussion boards and other resources throughout online courses has increased learning proficiency. The study's participants called for future research to understand the best standards to practice for delivering information to virtual students in higher education.

Medical education quickly needed to convert to a digital medium as the COVID-19 pandemic hastily halted traditional in-person learning. Medical educators Agarwal et al. (2022) posed the question "that despite acceptability whether the online mode of education is just as appropriate as the traditional method of content delivery" (Agarwal et al., 2022, pg. 28). With the question of how to replicate the important lessons of medical education on an online format, different online methods were used by study participants before the pandemic and during the pandemic to gauge the opinions of the medical community. Table 2 states 10.8% before and 53.1% during the pandemic medical students utilized online discussion chats for learning either very often or to a very high extent. "Before the pandemic (Table 2), students did not use or often use online methods such as online discussions," but during the pandemic, "the use of these online methods increases to a very high extent" (Agarwal et al., 2022, pg. 29). Abdull and Jaafar (2022) determined "that this was the case as students do not need to raise their hands or speak directly to instructors to ask a question in an online learning setting" and lowered the social factors from contributing to discussions.

Methodology

The IRB-approved online synchronized experimental research was conducted at a mid-sized Southeastern United States University. The online pilot program sought to understand higher education students' perceptions about synchronized online lectures coordinated on a learning management system (LMS). The research measures students' perceptions of supplemental synchronized virtual lectures through a Blackboard ultra-medium or Teams viewer. The research aims to address the gap in literature of online synchronized discussions.

To conduct the research, the instrument was electronically administered to the population. The instrument was administered to students after course completion of an undergraduate and graduate project management course. The pilot program population (n=23) received the instrument through a Google Forms survey link that was anonymous, not tracked, and asked for consent prior to starting the research. Any participant under the age of 18-years-old was not permitted to undertake the research. All participants completed the instrument fully. Overall, the research focused on the helpfulness of a synchronized learning supplement to an online information technology course.

Discussion

The population (n=23) consisted of males (60%) and (40%) females, that was (87%) undergraduate and (13%) graduate students. Most of the population considered themselves technology sophisticated (61%). Additionally, the researcher observed that only half of the population were willing to utilize a synchronized online lecture (57% likely, 30% neutral, 13% not likely) figure 1. Similarly, the participants stated they would be willing to accept a professor's assistance virtually (61% likely, 30% neutral, 9% not likely), and even less for mentoring (35% likely, 39% neutral, 26% not likely). Interestingly noted, the participants did have some positive regard towards meeting with professors synchronized online for open office hours virtually (44% likely, 43% neutral, 13% not likely).
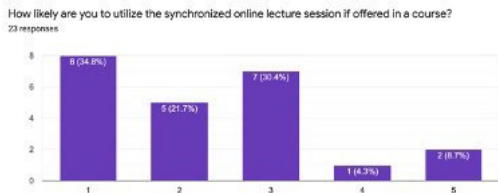

Figure 1 Students' perceptions of utilizing an online synchronized lecture

Nonetheless, the participants shadowed a disconnection between the value of virtual mentoring and direct virtual professor communication. But the population observed a positive perception of online synchronized lectures that focused on knowledge outside of the regular LMS constructions (66% likely, 30% neutral, 4% not likely) figure 2.
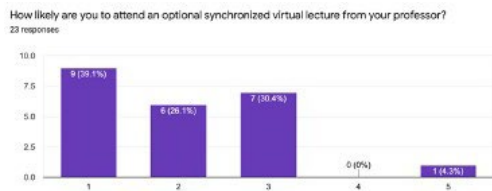

Figure 2 How likely are you to attend an optional synchronized virtual lecture from your professor?

Additionally, if the synchronized event was required–as a measure of student learning outcomes, the population perceived their acceptance the highest (87% likely, 13% neutral). But students perceived the value as lower or neutral (52% likely, 39% neutral, 8% not likely) when it was just "suggested" they attend a virtual supplemental class lecture. And if the professor simply suggested they attend and "make use of the knowledge" when offered (26% likely, 52% neutral, 22% not likely), students' perceptions of value dropped even further. And likewise, students perceived the lectures for virtual help with assignments (26% likely, 52% neutral, 22% not likely) as not having much value. But students did perceive the virtual synchronized lecture sessions offering some motivation (figure 3) for course success (40% likely, 30% neutral, 30% not likely), but they were not likely to retain them in an online course (13% likely, 26% neutral, 61% not likely), nor give them an extended level of confidence in understanding course topics (31% likely, 26% neutral, 43% not likely) or assignments (26% likely, 22% neutral, 52% not likely).
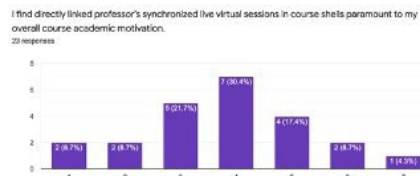
Figure 3 Students' perceptions of synchronized virtual sessions creating academic motivation

Interestingly noted, students were neutral regarding the course with the synchronized lectures adopted (36% likely, 32% neutral, 30% not likely), and similarly, they wouldn't withdraw from a course that didn't offer the virtual addition to a course (44% likely, 34% neutral, 22% not likely). But most interestingly noted from the students' perceptions was the widely accepted feature of being able to observe a professor virtually in the LMS courses (48% likely, 30% neutral, 22% not likely). This conclusion was also observed as a benefit in past research on embedded librarians that had their photographs in online LMS courses (Spangler, et al. 2020).

Conclusion

The research was focused on information technology students' (n=23) perceptions of comfort, confidence, and utilization of the pilot program to understand its value. The researchers' observations can be generalized to state that synchronized virtual appearances create an increase or propensity for online student retention. However, the research shadowed positive student comfort, confidence, and utilization of the program, like the use of embedded librarian programs (Spangler, 2020; Spangler et al., 2020). One student participant wrote,

> "It is my hope that virtual options will become more readily available. Even in the lab sciences department. Commuting and being around large groups of people is not something I anticipate wanting to do anytime soon."

The notion leads the researchers to disclose a larger need for a qualitative study on the perceptions of online students now the pandemic's end is considered and widely accepted in America. Additionally, the participants' notes raise a suggestion for a cross-generational quantitative study–post-pandemic–to understand the perceived value of synchronized tools in online learning management systems that would be larger and more generalized. The new study should consider the possibility of limitations in the instrument based on geographical limitations, socio-economic constraints, and technology gaps.

The research supports the notion that the program can construct student retention aspects by reducing anxieties and stress from distance learning spatial inconsistencies, especially during the pandemic. The findings indicate parallel considerations of the perceptions of students in the literature on students' perceptions of embedded programs. However, the results suggest limited notes of students perceiving greater levels of self-efficacy. Hence, the researcher suggests the findings are not generalizable because of the small population. It also begs the researchers to question if this overall extended action is a cognitive load breach or overburden that Carr's (2011) research considered? However, the researchers consider the pilot program's findings forecasting a need for a new larger study in the future to determine if the synchronized constructions are perceived as successful faculty adventures to employ.

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