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A Comparison of Faculty and Graduate Students' Perceptions of Engaging Online Courses: A Mixed-Method Study

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Abstract: The purpose of this study was to compare and contrast faculty and graduate students' perceptions of engaging online courses. This mixed-methods study occurred in a mid-sized state university in northeastern United States. Data from an online survey and semi-structured interviews indicated that graduate students and faculty perceived similar online course elements in the areas of social and teaching presence as engaging: interpersonal connections, structured learning environments, and variety in course activities and type of technology used. Both believed that poor organization was unengaging. Subtle differences in perception were illuminated by the qualitative analysis. The results have implications for online course pedagogy and research methodology.

Keywords: Online teaching and learning, engagement, web 2.0, community of inquiry.

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Introduction

Enrollment in online classes has increased significantly over the last decade, substantially more than any other higher education enrollment (Burnette, 2014). Allen and Seaman (2017) report that as of 2015, 29.7% of all enrolled higher education students are taking at least one online course, which is a 3.9% increase over the previous year. In addition, the Education Department's National Center for Education Statistics reported that while overall postsecondary enrollment dropped between 2016 and 2017, the number of students taking online courses at this level has grown (Ginder et al., 2018). This increase in online enrollment may be attributed to the benefits of online learning such as convenience and accessibility (McBrien et al., 2009), as well as lower operational costs to institutions and higher faculty productivity (Meyer, 2014). Further, students have self-reported that they prefer online over face-to-face learning because of its flexibility and convenience (Beaudoin et al., 2009; Boling et al., 2012) and some students also self-reported that online classes are more engaging than face-to-face courses (Soffer & Nachmias, 2018).

With this increased enrollment in online classes, more research attention has been devoted to effective pedagogy in the online environment. Online instructors must make important instructional decisions about how course content is being delivered online and need to adapt teaching practices to the online environment (Koehler & Mishra, 2009). Moreover, it is essential that instructors consider best practices that impact both student engagement and learning in the online environment.

One of the crucial aspects of effective and quality online instruction is student engagement (Dixson, 2010; Redmond et al., 2018). It is an essential component of the overall quality of students' online educational experiences and outcomes (Robinson & Hullinger, 2008). Student engagement can be defined as the interest and motivation held by students in their own learning of course content (Young & Bruce, 2011). Thus, it is imperative that instructors deliberately strive to engage students in their classes by using effective pedagogy.

Often, online instructors use or implement new pedagogy with the intent to enhance student engagement and assist in their learning. However, an important question that arises is: Are these strategies and changes in pedagogy truly influencing student engagement? Though researchers have pointed to general trends in online teaching that appear to enhance student engagement, there may also be mismatches between instructor and student perception of what constitutes engaging online pedagogy. In other words, faculty may perceive an online course element engaging, while

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students hold a different view. Thus, the purpose of this mixed-method study was to investigate what elements of online courses graduate students and faculty perceived as engaging and determine if there were any differences between their perceptions.

Literature Review

Various studies have investigated what elements make an online class effective and engaging. Student individual and behavioral characteristics, course design, and course facilitation all impact the level of engagement in an online course (Purarjomandlangrudi, Chen, & Nguyen, 2016). Further, teaching presence, as well as social and cognitive presence, can play an important role in student satisfaction and engagement in online learning.

Thus, teaching, social, and cognitive presence are the three interdependent elements of the Community of Inquiry (CoI) framework which is the most widely used for online and blended learning (Garrison, 2016). The CoI framework is “a generic and coherent structure of a transactional educational experience whose core function is to manage and monitor the dynamic for thinking and learning collaboratively” (Garrison, 2017, p.24). The CoI framework promotes both critical thinking and collaboration that leads to meaningful and engaging learning experiences (Garrison, 2017). The following literature review will explore these features of the CoI framework and Web 2.0 technologies that can enhance student engagement in online environments.

Social Presence

Social presence sets the overall environment of the online course and consists of the following three overlapping categories: personal connection, open communication, and group cohesion (Garrison, 2017). The considerations of course design and facilitation that provides opportunities for students to engage with each other and the instructor is vital. Social presence can be considered as the opportunities in the online environment where student-student or student-instructor interaction happens. These interactions can occur either through asynchronous or synchronous discussions, email, video conferencing, texts, blogging, phone conferences, etc. Essentially, any strategy used to assist in making students feel engaged and connected with each other and the instructor (Lowenthal, 2010) is considered social presence. Both student-student interaction and student-instructor interaction can influence students' engagement in online learning (Buelow et al., 2018; Purarjomandlangrudi et al., 2016). Specifically, they are more engaged in learning when able to interact with the instructor and other students (Dixon, 2010; Holzweiss et al., 2014). Social presence can be facilitated through course design elements and facilitation techniques that encourage student-student interaction and student-instructor interaction.

Student-student interaction.

Instructors play a salient role in student engagement in online classes by designing courses that encourage student communication, participation, and interaction (Johnson, 2003; Lewis & Abdul-Hamid, 2006). Students self-report higher satisfaction with a course when there are opportunities to interact online with peers (Beaudoin et al., 2009), especially early on in the course. Specifically, researchers found that students perceived icebreaker discussions at the beginning of a semester as the most important engagement strategy in an online course (Martin & Bolliger, 2018). Icebreaker and other introductory type activities allow students to feel a sense of belonging, which is important when establishing social presence in an online class.

Besides icebreaker activities, instructors encourage student-student interaction through weekly discussion boards. The use of discussion boards may further engage those students who may not necessarily be as engaged in face-to-face courses. Specifically, McBrien et al. (2009) found that students who infrequently participated in face-to-face discussions participated more in online discussions, although, active participation in discussions may not occur with all students. Therefore, Garrison (2017) notes that the role of the instructor is to serve as the discussion facilitator to encourage discussion with students who are hesitant while at the same time know how to make students sufficiently comfortable enough to allow for substantial discussion.

Additionally, instructors can use discussion boards as a means for students to take part in collaborative problem solving and critical thinking activities, which can further engage students in the online environment (Gaytan & McEwen, 2007; Robinson & Hullinger, 2009). Although, collaborative work can be challenging in an online environment, but students feel that peer interaction through collaborative projects allows them to learn the course material on a deeper level (Holzweiss et al., 2014). Online discussions can also be extended to student-led discussions, which can lead to students taking an active role in their learning, thus enhancing online instruction (Hacker & Niederhauser, 2000). Student-led discussions guide students to creating and sharing knowledge, which have been self-reported by some students as the best type of online activities (Holzweiss et al., 2014). Thus, online discussion boards play an important role in promoting social presence, student engagement, and collaborative inquiry.

Student-instructor interaction

Student-instructor interaction can be considered one of the most crucial factors in enhancing student satisfaction and engagement in online courses (Lohmann et al., 2018; Nandi et al., 2012). Martin and Bolliger (2018) found that students felt engagement strategies used to promote instructor-student interaction were more valued than strategies used to promote student-student and student-content interactions. Some students report that their best learning experience in an online course is interaction with their instructors (Holzweiss et al., 2014) with instructor accessibility being the key in their overall satisfaction (Boling et al. 2012). The rapport that instructors build with their online students can also positively impact student outcomes (Glazier, 2016). In order to help promote engagement student-instructor interaction should be regular and consistent (Britto & Rush, 2013), which could include recurring emails and announcement reminders (Martin & Bolliger, 2018). Further, these interactions should be open (Gaytan & McEwen, 2007; Garrison, 2017), timely (Robinson & Hullinger, 2009) and occur in a multitude of ways (Dixon, 2010), such as through emails, phone and video conference, texts, announcements, etc.

Cognitive Presence

Cognitive presence is “facilitating the analysis, construction and confirmation of meaning and understanding within a community of learners through sustained reflection and discourse” (Garrison, 2017, p. 51). Cognitive presence is developed through four cyclical phases (Practical Inquiry Model) that begins with a triggering event and then progresses to through exploration and integration to resolution (Garrison et al., 1999). The triggering event should be a well-planned activity or assignment that engages students, such as a problem in their field of study. In the second phase, exploration, students either collaboratively or individually explore resources to better understand or make sense of the presented issue in their field of study. Instructors can provide the resources for students to explore answers or students can find their own. When instructors provide content, it is suggested they use that which contains human faced-based resources (i.e. videos), which can significantly increase student engagement (Patterson, 2019). In the third phase, integration, students begin to draw conclusions and make decisions. This phase most likely occurs in a discussion board through a text-based medium. The problem is resolved in the fourth phase, but often in this phase more questions are raised, which brings the students back to the first phase and the cycle begins again.

Moving through these stages promotes critical thinking and allows students to make meaning of the course content. The cycle through these four stages is also interdependent on both the social and teaching presences. For instance, the success of students moving through the integration phase may be dependent on the instructor and the type of questions the instructor asks during the discussion. A teaching presence is important during these cyclical phases because higher levels of teacher presence can lead to increased levels of cognitive presence (Gasevic et al., 2015). Encouraging critical thinking and helping students make meaning typically occur through carefully crafted discussions and assignments. Therefore, it is important for instructors to design online activities that help students engage both with the content and each other (Dixon, 2010). It is also essential to provide a variety of ways for students to process the course content (Preisman, 2014).

Teaching Presence

An important feature of engaging online courses is teaching presence. Garrison (2017) notes that both cognitive and social processes are interdependent on teaching presence. Teaching presence is defined as “the design, facilitation and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes” (Anderson et al., 2001, p. 5). Empirical evidence supports the importance of teaching presence in the online environment. Specifically, Yang et al. (2016) found that perceived learning and satisfaction in online classes stemmed from teaching presence. The following sections will further elaborate on these key areas of teaching presence, which include course design and organization, facilitating discourse, and direct instruction.

Course design and organization

The first component of Anderson et al.’s (2001) definition of teaching presence is course design and organization. This component takes place well before the start of the online course. Course design can simply be defined as the preparation of a course prior to its start in relation to the setting of goals and objectives of the course, the assessment procedures, and the teaching and learning activities. Effective online teaching addresses course elements, such as specific goals and objectives (Preisman, 2014). Further, assessments should be closely aligned with the course goals and objectives and include a variety of assessment measures with student choices (Kumar & Wideman, 2014), which can lead to student engagement (Rose & Meyer, 2002). A variety of teaching and learning methods are also recommended (Gaytan & McEwen, 2007). These methods should actively engage students by challenging academic rigor that enriches their development (Robinson & Hullinger, 2009, p. 107). Specifically, to encourage student engagement instructors should consider learning activities that promote higher level thinking skills (Cundell & Sheepy, 2018).

Many students find organized online courses both effective and desirable (Jaggars & Xu, 2016; Lewis & Abdul-Hamid, 2006). Some students value a well-structured and organized course more than the instructor's social presence in the course (Preisman, 2014). Furthermore, students have self-reported overall higher satisfaction with a course when it is organized (Beaudoin et al., 2009) and carefully structured (Young, 2006). In general, a well-organized course can be considered one that has intuitive navigation (Fabianic, 2002), a clear and consistent structure, clear expectations and directions, and navigation instructions on where to start and find course materials and resources. These course organization features allow students to have a sense of predictability.

Facilitating discourse

In facilitating discourse, it is the online instructor's role to encourage and facilitate discussion. In this facilitation, instructors must carefully consider how they themselves are involved in the discussion. Too little or too much involvement can lead to less student participation and learning (Zhao & Sullivan, 2016). The instructor must find the ideal balance of control (Garrison, 2017). An instructor can facilitate discussions by asking questions, seeking clarification, commenting on posts, and making observations. In this role, the instructor should encourage those students who are not actively participating and try to limit the participation of those students who may be contributing negatively to the class community (Shea et al., 2005). Other indicators of effective discourse facilitation include the instructor indicating areas of disagreement/agreement between students, setting an environment conducive to learning, and assisting students to reach consensus and understanding (Garrison, 2017). An instructor who can effectively facilitate discourse in an online class can help lead students to meeting course outcomes.

Direct instruction

Direct instruction is related to the content of the course and any misconceptions students may hold (Garrison, 2017). Anderson et al. (2001) state that direct instruction is when "teachers provide intellectual and scholarly leadership and share their subject matter knowledge with students" (p. 8). In other words, when direct instruction is provided, the instructor becomes less the facilitator of the course, and more of a content expert. Here as the content expert, the instructor needs to know when to provide instruction by asking questions, including knowledge from a variety of sources, identifying misconceptions, summarizing discussions, focusing the discussion on specific topics, and providing feedback. Feedback can be given both at a class and individual level and feedback in an online course that is timely, responsive (Preisman, 2014), constructive, and distributed throughout the course (Beaudoin et al., 2009; Lewis & Abdul-Hamid, 2006) can lead to student satisfaction and engagement.

Garrison (2017) argues that without the involvement of the instructor, learning in the discussion forums would stall at basic information and knowledge sharing and not move into higher level learning. On the other hand, Watson, Richardson, and Loizzo, (2016) argue that it does not necessarily need to be the instructor who provides the direct instruction; there are instances where the student takes on this role. This shift in roles can be accomplished through an activity such as a student-led discussion.

Web 2.0 Technologies

Web 2.0 technologies help develop a community of learners in online classes by promoting communication and collaboration between students and instructors. Web 2.0 technologies allow users to create, share, find, and remix web-based content. The use of Web 2.0 technologies is a way to deeply engage students and promote learning activities that encourages student participation and makes learning more interesting, meaningful, and authentic (Wankel & Blessinger, 2013). There are numerous examples of Web 2.0 technologies, including discussion boards, blogs, wikis, social networking, podcasts, and mobile learning.

Research has pointed toward the use of diverse technologies to engage students in online classes (Dixon, 2010; Henrie et al., 2015). Researchers Chen, Lambert, and Guidry (2010) also found a positive relationship between the use of Web 2.0 technologies in online courses, student engagement, and the achievement of proposed learning outcomes. Instructors should further consider other modes of technology to engage students in discussion and interaction. For instance, social media, such as Twitter, may be an effective online learning tool for promoting student engagement (Bledsoe et al., 2014). Additionally, Web 2.0 technologies that use asynchronous discussion lead to greater student engagement by allowing students more time to think more critically and reflectively (Robinson & Hullinger, 2008). Nevertheless, Web 2.0 technologies alone will not increase student engagement; rather the key element is how it is used to help increase engagement (Ehrmann, 2004). With the increase of innovative Web 2.0 and instructional technologies like VoiceThread, Flipgrid, and Twitter, as well as new and enhanced features in course management platforms, it is essential to reevaluate how these practices are impacting student engagement.

Methodology

The current mixed-methods study aimed to contribute to research on student engagement with data collection occurring in two distinct phases. The use of a mixed-method design allowed the researchers to gain a deeper

understanding of the research problem. The purpose of the first phase was to collect quantitative survey data in order to determine the specific online pedagogical elements that both graduate faculty and students perceived to be engaging and determine if there were any significant differences between their perceptions. The purpose of the second phase of the study was to collect qualitative data through semi-structured interviews in order to gain a deeper understanding of online teaching practices that are engaging as well as a clearer understanding of the graduate faculty and student perceptions of these practices.

Setting and Participants

The study took place in a mid-size state university in the northeastern United States. Graduate level faculty who taught at least one online course and graduate level students who took at least one online course in the school of education were recruited for the study. A total of eighty-two ($n = 82$) graduate students completed the first phase survey. Most student participants were female (84.1%). More than half of the student participants took more than three online courses (64.6%), while 35.4 percent took 1-2 online courses. A total of 13 graduate school of education faculty completed the first phase survey with most participants identifying as female (92.3%). Most graduate faculty had received formal online teaching training (92.3%) and had experience teaching in an online format for more than three years (64.6%). Participants from phase one of the studies were invited to participate in the second phase of the study. Recruitment concluded when the data became saturated, which occurred when the graduate student sample size reached six and the faculty sample size reached five.

Data Collection and Analysis

An exploratory electronic survey instrument was developed for the first phase of the study after a thorough review of literature and research on the best practices of online teaching. The use of an electronic survey resulted in greater participant convenience and recruitment, as well as greater ease in data analysis. The survey included a total of 11 questions and sub-questions in the form of multiple choice, Likert-scale type questions and short text response. The survey included questions about participants' demographics, online pedagogical elements experienced, and levels of engagement during online courses. The Likert-scale type questions were developed to survey participants' experiences and levels of engagement. Student participants were asked how each identified course element contributed to their course engagement, while faculty rated how they perceived each element used contributed to student engagement. Faculty were asked to mark N/A if they did not use an element and students marked N/A if they did not experience the element in their online course experiences.

Descriptions of the online elements surveyed were provided to the participants in order to alleviate any misconceptions. The online elements surveyed were characterized as either high-tech (Web 2.0) or low-tech. Low-tech elements were specified as those needing no specialized or advanced technology to implement (i.e., collaborative groups, feedback, a variety of instructional methods, communication, student choice, and organized/structured environment). On the other hand, high-tech (Web 2.0) course elements were considered to be those that needed more specialized software or technology to implement (i.e., various tools including those for digital storytelling, multi-modal production, video, audio, and image creation, text-based communication, social media, and website creation).

The researchers further developed a four-question semi-structured interview protocol for the second phase of the study. Students and faculty were asked to log on to a researcher's computer and show examples of their online courses. Participants were asked to use a think aloud strategy as they identified specific examples of engaging activities, as well as not engaging activities in their online classes. Phase two of the study was audio and screen-recorded using QuickTime screen recording software. Student interviews varied between 10 to 20 minutes, while faculty interviews ranged from 15 to 45 minutes.

In order to analyze the survey data more efficiently, the *Major* and *Moderate* items and the *Minor* and *None* items of the Likert scale were combined. The survey data was then analyzed by using descriptive statistics, followed by a nonparametric test (Mann-Whitney U) to test for any significant differences between how students and faculty rated elements of online instruction as engaging. The Mann-Whitney U test was selected because the dependent variable was ordinal, but not normally distributed. Interview data were transcribed and thematic analysis was utilized using the CoI framework as a guide.

Findings

Quantitative Findings

Online course elements experienced by students and implemented by faculty

With the exception of the text-based tools (i.e., discussion boards) students experienced more low-tech elements in online courses than elements that are considered high-tech. Further, most students had experienced online elements that aligned with social and teaching presence, such as organized and structured classrooms, communication with their instructor, text-based tools, and feedback from their instructor, while the least number of student participants had

experienced student choice. Similar trends occurred with the online course elements self-reported by faculty, who were more likely to utilize low-tech teaching and social presence components in their online courses in comparison to Web 2.0 components. An exception was with text-based tools which all faculties reported using, which is not unusual in online classes. Both students and faculty self-reported course elements that were similar, which confirmed that students were actually experiencing course elements that faculty said were being implemented.

Student and faculty perceived level of engagement of online course elements

Students rated instructor feedback, communication, organized and structured environment, and text-based tools as the most engaging (> 80% major-moderate) elements in their online courses. Instructor feedback (91.4%), and organized and structured (87.6%) environment were rated the highest. Conversely, social media (22.4%), image-based tools (27%), website creation tools (32.1%), audio tools (37.1%), and digital storytelling (37.2%) tools were rated the least engaging (< 40% major-moderate). Overall, students rated low-tech course elements as more engaging in comparison to Web 2.0 technologies with the exception of text-based tools (i.e., discussion boards).

All faculty highly rated text-based tools (100%) and most rated feedback, a variety of instructional methods, and communication (92.3%) (>80% major-moderate) as course elements contributing to student engagement. Audio tools (9.9%), student choice (16.6%), image-based tools (18.2%), video tools (23.1%), digital storytelling tools (25%), and social media (30%) were rated most often as the least engaging (< 40% major-moderate). Similar to the students' results, with the exception again of text-based tools, faculty most often rated the low-tech course elements more engaging. Both students and faculty felt elements that fell under teaching and social presence were the most engaging.

Comparison of faculty and students perceived level of engagement

Data was first analyzed descriptively to determine any similarities or differences between faculty and students' perceived levels of engagement (Table 1). Both faculty and students perceived the same five course elements as the most engaging. However, faculty rated text-based tools most often as engaging, while students rated communication most often as engaging.

In order to further compare the level of engagement between students and faculty, a Mann-Whitney U nonparametric test was conducted for each Likert survey item where the sample size was five or greater for both samples. Video tools, image-based tools, social media, and website creation tools were not included in the analysis due to fewer than five faculty participants using these elements. The N/A Likert-scale items were not included in the calculations, thus making the total sample size for each item variable. The Mann Whitney U analysis revealed no statistically significant differences between the self-reported level of engagement for students and faculty, with p-values ranging from .142 (Student Choice) to .810 (Digital Storytelling Tools). Thus, graduate students and graduate faculty did not differ in their perceptions regarding the online engaging elements.

Table 1. A Comparison of Faculty and Students Perceived Level of Engagement

Graduate Students Engagement	Rating	Graduate Faculty Engagement	Rating
Feedback	91.4%	Text-based Tools	100%
Organized & Structured Environment	87.6%	Feedback	92.3%
Communication	84%	A Variety of Instructional Methods	92.3%
Text-Based Tools	83.3%	Communication	92.3%
A Variety of Instructional Methods	70%	Organized & Structured Environment	84.6%

Qualitative Findings

In order to further understand student engagement in the online environment, the qualitative data collected were analyzed using thematic analysis with the CoI theory as a frame of reference. In general, several themes emerged that supported the role of social presence and teaching presence in an engaging online course.

Social presence: Fostering relationships

Students and faculty both discussed the role of social presence in an online classroom environment and how it related to engagement. Specifically, faculty and students perceived that for a course to be engaging it was necessary to establish interpersonal connections. Faculty noted that creating an environment where students felt connected to their professor was "valued more than anything else." They discussed taking several steps to foster relationships with students. For example, one faculty member explained:

I reach out to students at the end of August before the class even starts. I introduce myself by email. Then I bring them to this video...they get to see me as a person. This personalizes it. I think that is critically important.

Other faculty members discussed using voice technology and sharing photos of themselves, family, and pets as a way to connect with students. Students similarly noted that they enjoyed faculty use of audio and video to introduce themselves because it made professors appear approachable and real.

Further, faculty discussed the importance of providing opportunities for students to establish relationships with each other using Web 2.0 technologies (i.e., VoiceThread, Flipgrid, and Google Hangouts) in order to help students interact and develop a sense of community. Faculty specifically commented on the importance of using voice and images. One faculty member stated, "I think that there is just something about hearing someone's voice talking that I feel they (students) need to have." Some faculty also asked students to post photos of themselves or something about themselves as a way to create a sense of community. Sharing photos and using voice and video allowed both faculty and students to convey emotion leading to affective exchange, which can be more difficult to accomplish when relying only on text-based communication. Thus using a variety of media for introductory icebreaker type activities helped foster social presence in the online environment.

In addition, students reported feeling engaged when they were encouraged to communicate with their professors. Students particularly preferred it when professors were available to meet either by phone, Skype, or in person after hours, such as in the evening or on the weekend. One student explained, "Having at least one evening where she was available was extremely helpful." Finally, faculty believed it was important to clearly communicate how students could contact them and to provide a variety of options and times for making contact. Therefore, accessibility of the faculty member through ways other than email was important to the participants. This availability helped establish a social presence and showed students that the faculty member cared about their success, thus fostering their relationship.

Social and teaching presence: Role of the instructor

The establishment of a community of learners (social presence), time parameters, and clear expectations (teaching presence) were necessary for students to feel engaged. Students preferred their classmates to submit assignments in the week they were due rather than submit all assignments weeks ahead of time. Students also reported not feeling engaged when their classmates waited until the final deadline to participate in class discussions. For example, one student explained that she preferred professors who required students to post throughout the week rather than by the end of the week. She said, "I like that you don't feel like you're waiting until the 9th hour for someone to respond to you and you'd like to go to bed." This is a clear example of the interaction between social and teaching presence. A community of learners should be engaged throughout the week with students having a frequent presence in class discussions and activities. In the current study students did not feel engaged if a presence was infrequent. At the same time, faculty should encourage those students who are not participating in the discussion to do so. However, faculty establishing a community of learners may not be enough for student engagement. Instructors also should set clear guidelines and expectations for participation in discussions (i.e., participate on four different days in the weekly discussion).

Social and cognitive presence: Supporting elements

Social and cognitive presence are mutually beneficial (Garrison, 2017) with social presence supporting cognitive presence. Social presence should first be established early in the semester and then continues to develop as students converse in discussions and work in collaborative groups. By engaging in a collaborative process through group work and class discussions, students in the current study were able to make meaning of course content and learned from each other by being exposed to different perspectives and participating in discussions. Specifically, students noted they were engaged when they interacted with each other and the course content in specific ways, such as working on group projects and reading each other's discussion posts and responses. One student said:

Group work does enhance the course because you're not just reading loads of material...there's actually something else that is an end result of some of your work. Group work called for us to meet and talk and I think that goes a long way in terms of making it a lot more engaging.

Another student explained that reading other students' posts online allowed for an engaging course element that is not found in traditional face-to-face courses. She said:

I really enjoyed having the perspective of the other students and I wouldn't typically have that if I were taking the class on campus. Because even though people are sharing the information, you aren't [hearing] every single student's perspective on something.

Similarly, another student stated, "Discussion boards are engaging because you get to see [how] people interpret things differently." These student interview excerpts illustrate how a cohesive group and community of learners (social presence) formed early in the semester allowed for successful collaborative work and discourse to learn course content (cognitive presence).

Teaching presence: Design and organization of course shell

The relationship between establishing teaching presence through an organized and structured course and student engagement was a recurring theme discussed by faculty and students. One faculty member explained, "I like structured classrooms so students know where to begin and end." Similarly, another faculty member noted that a structured course with a similar module format each week was engaging for students because "they [students] do not have to spend a lot of time looking for something or trying to figure out exactly what they have to do." This faculty member maintained a structured and organized course shell by including "Read, Watch, and Do" folders in each week's module.

Students also noted their preference for organized courses, but they focused on how faculty allowed access to course content. Students preferred professors to lay out a course so that only a portion of the content and assignments were available. This helped students with time management and quelled feelings of being overwhelmed by the course requirements. One student reflected:

He [professor] always sent us the week ahead, the week before it was due. So it wasn't like he put everything that was going to be due in the beginning and you know overwhelm me. He let the information come out as it was needed. He used scaffolding to build, which really made the class a lot easier to take.

Teaching presence: Design and organization of discussions

Faculty and students discussed how the design and organization of discussion boards contributed to feelings of engagement. One faculty member noted that more engaging discussions occurred when structure was provided for the course readings that the discussions were based upon. She stated that more responses from students occurred when guided questions were provided with the readings. Another faculty member focused on the type of discussion prompts she provided. She stated, "My questions are sometimes not engaging so sometimes I will see a discussion that falls flat and I don't get a lot of postings." Another faculty member noted that the organization and format of the discussion threads on the learning management system (LMS) were confusing. This faculty member stated, "It [discussion boards] doesn't flow well - the readability of it."

According to students, the organization of the discussions on the LMS also inhibited the natural flow of a discussion. One student noted, "Discussion board posts become very redundant and forced. They do not mimic a natural discussion." Though this student did not elaborate on what made the discussion board posts redundant, one contributing factor could be the type of prompts provided by the instructor. Like the students, faculty commented that discussion boards could become unengaging, thus leading them to suggest ways for more engaging discussions. For instance, faculty observed that students enjoyed sharing personal experiences and wanted to explore ways to set up less formal discussions for students in the future. Not only would this suggestion facilitate discourse, but it would also continue to support social presence in the online classroom.

Teaching presence: Design and organization of a variety of activities

Students reported that they were engaged when weekly assignments were varied rather than repetitive. One student explained:

An instructor who switches activities from week to week is engaging. One week you may be participating in a small group discussion, another week you are leading a discussion, another week doing a jigsaw activity and maybe another week you are working on your own.

Students also reported that they enjoyed weekly activities in different formats, such as participating in small group discussions, completing small group projects, or being a discussion leader. One student explained, "So I think having various roles throughout the course is engaging. This time I'm going to learn, this time I'm going to present alone, now I'm going to work in a group." Conversely, students found repetitive courses where they were required to complete similar type activities each week to be unengaging (i.e., read and respond to a question). One student stated, "You get tired of doing the same thing every week." Though a variety of course activities contributed to their engagement, students noted that expectations for these assignments should be clear and that exemplar models should be provided.

Teaching presence: Design of assignments and activities using technology

Faculty and students further believed it was important to use a variety of technology tools to enhance learning and engagement. For instance, faculty used technology tools to help students monitor their own learning. One professor used a tool (EDpuzzle) to insert questions throughout a video she assigned students to view. EDpuzzle allows students to view videos related to course content and monitor their comprehension by answering built-in questions where they received immediate feedback. The use of technology also allows for more variety in the types of assignments students completed. One professor found that Pinterest was a useful tool for her students and she created an assignment where students used Pinterest to create a collection of books they read throughout the semester. In this way, the professor created a book sharing community that allowed for the further development of social presence. Overall, she stated, "I have had a really good response to the Pinterest board. Now, I am trying to use it in different classes." Students also

found the video and audio tools faculty used to be engaging. For example, one student explained that one professor utilized new technology and also asked students to try out the same technology. She said:

The professor used videos and web links. Our assessments were done either by written form or creatively using technology. Once we created a word bubble or Wordle for an assessment, which I had never done before. I learned how to do something new that I've been applying now to my teaching, which is terrific.

Teaching presence: Facilitation and direct instruction

A final theme that emerged was the use of both direct instruction and facilitation in the online classroom. Specifically, students noted that they did not feel engaged when too much of the material had to be self-taught because there was little assistance from the professor to understand the course content, little feedback from the professor, and the professor was unavailable during "after" hours. One student explained, "Sometimes I feel like when they (classes) are fully online, the professor gives an extra workload as a means of compensating for not being in the classroom. And it feels self-taught." Though students wanted faculty to guide them and provide direct instruction in their learning of course content, they also welcomed being given the opportunity to serve as the facilitator. Garrison (2017) notes a role shift where the student becomes the facilitator of discourse and provider of direct instruction can be beneficial. In particular, students noted that they enjoyed leading and teaching other students in the course. One student explained:

I would say this class was engaging because we had to present it [course content] to the classmates and we had to make it engaging for them. It had to be interactive for them. It feels good to teach your classmates about a topic. And then in return it feels good to hear someone else's perspectives on the topic and how they introduce it.

Faculty also discussed the shift in roles in the online classroom as a way to engage students. They believed giving students the ability to assume leadership roles during the course was engaging. Leadership roles for students included crafting discussion questions, leading discussions, creating other types of activities for students to do in response to readings, researching topics, and creating informational presentations about a topic using audio and visual tools. One professor explained that her students taught one week of the course. They "can choose which chapter/area of the course content they want to be an expert in and they are responsible for creating online materials." Similarly, another professor had her students work in small groups to research a topic and create a presentation to teach the other students about that topic and lead the discussion. She explained that this activity was engaging because:

Once they have created the presentation, there is one week that they present the presentation and they become mini group leaders. Many of them have said to me that they enjoy being the instructor during the week. They lead the discussions; they lead the presentations with the rest of the class just as I modeled for them in the beginning of the semester.

This final theme is important because it provides support to the shift in role of students in an online course and how it relates to engagement. Students should be given opportunities to serve as the facilitator and provider of direct instruction. However, students still need to be provided with models and guidelines by faculty as to how to fulfill this facilitator role.

Discussion

In this study, online course elements related to both social and teaching presence were most associated with graduate student and faculty's feelings of engagement. No significant differences were found between what faculty and students perceived as engaging course elements. Specifically, survey data revealed that students and faculty found teaching presence elements such as feedback, an organized and structured environment, text-based tools (i.e., discussion boards), and a variety of instructional methods to be engaging. Further, both faculty and students found the social presence element of communication engaging. The qualitative results were supported by the conclusions drawn from the quantitative data. However, the qualitative data provided a more nuanced analysis as to how social and teaching presence contributed to student engagement, as well as how these two presences interacted.

Faculty and students rated the social presence element of communication as engaging in the survey. This result was further supported by the qualitative data where students and faculty both discussed the value of forming interpersonal relationships in an online classroom. However, students perceived that faculty should be the guiding presence in the formation of these relationships with faculty initiating and organizing these interactions. These findings support the research of Martin and Bolliger (2018) who also found students valued most icebreaker type activities initiated by faculty to help form and promote interpersonal relationships. Faculty recognized the importance of initiating these relationships with and between students early in the semester and found that the use of technology helped facilitate affective communication. Using technology such as video and/or audio made faculty seem real and approachable to students. Overall, this finding regarding the value of interpersonal relationships echoes previous research which showed that student-student interaction and student-instructor interaction leads to engaging online learning (Purarjomandlangrudi et al., 2016; Dixon, 2010; Holzweiss et al., 2014) and increased student satisfaction with online courses (Beaudoin et al., 2009).

According to Garrison (2017), teaching presence can be developed during both the creation and facilitation of an online course. However, most of the conclusions drawn in the current study concerned teaching presence areas that were developed prior to the start of the course. For instance, students felt engaged with a variety of learning activities which, in general, echoes research that shows students need a variety of ways to learn and process content (Preisman, 2014). Other engaging elements included an organized and structured course and well-planned discussion boards. In the survey, while both students and faculty highly rated the importance of an organized and structured course, the analysis of the qualitative data revealed more specifically what students and faculty valued in an organized online classroom environment. Faculty emphasized the importance of creating a structured and consistent online environment where students could work independently to achieve the course goals and objectives. Similarly, students appreciated structured courses with clear expectations allowing them to feel less overwhelmed and better prepared for success. These findings are in line with previous research which illustrated that organized online classes were more effective and more desirable to students than unstructured courses (Beaudoin et al., 2009; Jaggars & Xu, 2016; Lewis & Abdul-Hamid, 2006; Young, 2006).

Further, both faculty and students found text-based tools (i.e., discussion boards) to be an engaging element in an online course. Students felt engaged when learning course content through discourse with their online colleagues. Both students and faculty noted that careful consideration had to be given to the design of discussion boards. Faculty emphasized the importance of giving clear expectations and creating quality prompts. Students focused on having quality discussions and structured opportunities to feel connected to and interact with other students in the online course. This finding shows the interaction between social and teaching presence. In other words, for students to feel fully engaged and connected with each other (social presence), faculty needed to provide quality and planned opportunities to do so (teaching presence). Facilitation of online discussions can be very difficult (Garrison, 2003) and the success of these discussions can depend on the skills of the facilitator (Rovai, 2007). Instructors should provide structure and guidelines to online discussion boards to help encourage student discourse and interaction. This can include providing a detailed rubric and exemplar discussion examples.

One finding that emerged only from student data considered faculty roles during the facilitation of the course. For instance, students requested that faculty have an active presence in the online course rather than a passive role in the course. When faculty took a passive role in online courses, students felt as if they were "teaching themselves" which, they noted, made them feel not engaged. Thus, faculty should be the facilitator and provide direct instruction where needed. Instructor facilitation not only helps with feelings of student engagement, it can be associated with students thinking more critically during online discussions (Holsler & Arend, 2012). However, it is difficult to exactly pinpoint what effective instructor facilitation looks like. Nevertheless, students prefer faculty to serve as a facilitator because they are subject matter experts (Hew, 2015).

An important finding in the study was that both students and faculty noted that shifting the role of facilitator and provider of direct instruction from the instructor to the student was engaging. According to Garrison (2017), it is acceptable to allow students to have a teaching presence in the classroom by allowing them to facilitate discourse and provide direct instruction. Peer facilitation of discourse could also more effectively promote collaborative discourse and critical thinking (Oh et al., 2018). Faculty felt it was particularly important to give students leadership roles throughout the course with students appreciating this altered role. Students particularly enjoyed group work, leading a group, and online discussions with classmates. This finding connects to previous research on the types of online learning activities that students find engaging. That is, research indicates that students view student-student interaction around course content (e.g., discussion boards, creating and sharing knowledge as a leader) as engaging (Holzweiss et al., 2014; Dixon, 2010; Purarjomandlangrudi et al., 2016). Faculty should seek ways to allow students to facilitate course content in a leadership role, but in doing explicit guidelines should be provided.

The results of the survey indicated that faculty were not using Web 2.0 technologies other than text-based tools (i.e., discussion boards) and students were not experiencing this technology in their online courses. Both faculty and students rated Web 2.0 elements other than text-based tools as not engaging. However, some contradictory results were present in the qualitative data. The majority of participants interviewed included Web 2.0 technologies in their discussion of engaging course elements. Those faculty and students interviewed in the study thought variety in the use of Web 2.0 technologies and text tools were engaging. Web 2.0 technologies were also used to create interesting course assignments (i.e., Pinterest boards) and assessments (i.e., Wordle). These findings coincide with the research of Chen et al. (2010) who found a positive relationship between the use of technology and student engagement, as well as research by Dixon (2010) who found that a variety of technologies used in online courses engages students. Nevertheless, contradictory findings could be the result of those who agreed to take part in the second phase of the study. These participants could be those who enjoyed learning and teaching online and experiencing and using a variety of Web 2.0 technologies.

Limitations

The sample in this study was small and only represented one university, lessening the generalizability of the findings to other populations and settings. Future research should aim for a larger, more diverse sample to gain a clearer picture of

engagement in online learning. A larger sample size would also allow for better control of differences which exist between subjects.

The mixed-methods design allowed for a fine-grained understanding of the elements in online courses perceived by both students and faculty as engaging. More specifically, the qualitative interviews further illuminated the quantitative survey data. However, the researchers note one limitation of the design. The qualitative interviews for the faculty indicated that faculty believed the use of Web 2.0 technologies were important and were excited about using them; however, this was not the case in the quantitative survey data. It is possible that this is because the faculty who selected themselves for participation in the interviews were also faculty who used these tools. Although the intent of the study was exploratory, the researchers recommend further testing of the survey instrument for validity and reliability. Some reliability issues may have been present causing a mismatch between what online elements faculty self-reported using and what elements they rated as engaging (i.e., audio tools). Even though descriptions of the online elements were provided in the survey, some misunderstanding and/or misinterpretation of the elements may have still occurred. Thus, further testing of the survey could help eliminate these discrepancies.

Conclusion and Recommendations

The study points to several directions for future research. First, although social presence was important to both students and faculty, students seemed to put a greater emphasis on student-student interaction whereas faculties were more concerned with faculty-student interaction. Research has found that both types of interactions are important when it comes to online course engagement (Buelow et al., 2018; Purarjomandlangrudi et al., 2016) with some research pointing to students valuing student-instructor relationships over student-student relationships (Martin & Bolliger, 2018). Future research should seek to better understand the specific roles these different relationships play in creating engaging online learning environments and how to best foster them throughout an online course.

Variety in online courses was also valued. Faculty and students sought variety in course assignments and activities, student roles, and technology use. Future research should further investigate which activities and roles students find most engaging. Further, additional research is needed to delve deeper into the use of technology tools within an online course. Specifically, researchers need to know which technologies are most engaging and why some instructors use a variety of Web 2.0 technologies whereas others do not. It is also important to know which uses of technology are most effective in engaging students in learning and if the use of certain technologies result in improved student learning outcomes. Previous research points to the notion that the ways in which the technology is used is more important than the technology itself (Ehrmann, 2004).

Although students and faculty clearly valued variation in technology and course assignments, they also emphasized the importance of the teaching presence element of a structured learning environment. It is not surprising that students and faculty felt this way since research highlights the importance of using variety in teaching and learning methods (Gaytan & McEwen, 2007). Thus, the question arises: how can instructors create a structured environment that also allows for variation in technology use, teaching methods, and student assignments? However, it is unclear how to best achieve this variety within a structured and consistent environment. Similarly, future research should try to gain a clearer understanding of what students and faculty mean by a structured learning environment.

As enrollment in online courses increases, it is imperative that researchers strive to understand how to create high quality and engaging online learning experiences using the CoI framework as a guide. In doing so, it will ensure that student retention rates are high and that the quality and reputation of universities do not suffer. Much research exists about effective practices for teaching online, but there are still many questions about how to continue to do this well and which methodologies to use to research online pedagogical practices.

References

- Allen, I. E., & Seaman, J. (2017). Digital learning compass: Distance education enrollment report 2017. Digital Learning Compass. <http://onlinelearningsurvey.com/reports/digitallearningcompassenrollment2017.pdf>
- Anderson, L. W., & Krathwohl, D. R. (Eds.) (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy of educational objectives*. Allyn & Bacon.
- Anderson, T., Rourke, L, Garrison, D.R., & Archer, W. (2001). Assessing teaching presence in a computer conferencing context, *Journal of Asynchronous Learning Networks*, 5(2), 1-17.
- Beaudoin, M. F., Kurtz, G., & Eden, S. (2009). Experiences and opinions of e-learners: What works, what are the challenges, and what competencies ensure successful online learning. *Interdisciplinary Journal of E-Learning and Learning Objects*, 5, 275-289. <https://doi.org/10.28945/78>
- Bledsoe, T. S., Harmeyer, D., & Wu, S. F. (2014). Using Twitter and #Hashtags toward enhancing student learning in an online course environment. *International Journal of Distance Educational Technologies*, 12(3), 75-82. <https://doi.org/10.4018/ijdet.2014070106>

- Boling, E. C., Hough, M., Krinsky, H., Saleem, H., & Stevens, M. (2012). Cutting the distance in distance education: Perspectives on what promotes positive, online learning experiences. *Internet and Higher Education*, 15(2), 118-126. <https://doi.org/10.1016/j.iheduc.2011.11.006>
- Britto, M., & Rush, S. (2013). Developing and implementing comprehensive student support services for online students. *Journal of Asynchronous Learning Networks*, 17(1), 29-42. <https://doi.org/10.24059/olj.v17i1.313>
- Buelow, J. R., Barry, T., & Rich, L. E. (2018). Supporting learning engagement with online students. *Online Learning*, 22(4), 313-340. <https://doi.org/10.24059/olj.v22i4.1384>
- Burnette, D. M. (2014). Review of the book *Effective online teaching: Foundations and strategies for student success*, by T. Stavredes. *Adult Learning*, 25(2), 73-74. <https://doi.org/10.1177/1045159514522429>
- Chen, P. D., Lambert, A. D., & Guidry, K. R. (2010). Engaging online learners: The impact of web-based learning technology on college student engagement. *Computers & Education*, 54(4), 1222-1232. <https://doi.org/10.1016/j.compedu.2009.11.008>
- Cundell, A. & Sheepy, E. (2018). Student perceptions of the most effective and engaging online learning activities in a blended graduate seminar. *Online Learning*, 22(3), 87-102. <https://doi.org/10.24059/olj.v22i3.1467>
- Dixson, M. D. (2010). Creating effective student engagement in online courses: What do students find engaging? *Journal of the Scholarship of Teaching and Learning*, 10(1), 1-13.
- Ehrmann, S. C. (2004). Beyond computer literacy: Implications of technology for the content of a college education. *Liberal Education*, 90(4), 6-13.
- Fabianic, D. (2002). Online instruction and site assessment. *Journal of Criminal Justice Education*, 13(1), 173-186. <https://doi.org/10.1080/10511250200085401>
- Garrison, D. R. (2003). Cognitive presence for effective asynchronous online learning: The role of reflective inquiry, self-direction and metacognition. In J. Bourne & J. C. Moore (Eds.), *Elements of Quality Online Education: Practice and direction* (Vol. 4, pp. 47-58). Needham, MA: The Sloan Consortium.
- Garrison, D. R. (2017). *E-learning in the 21st century* (3rd ed.). Routledge.
- Garrison, D. R. (2016). *Thinking collaboratively*. Routledge.
- Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2), 87-105. [https://doi.org/10.1016/S1096-7516\(00\)00016-6](https://doi.org/10.1016/S1096-7516(00)00016-6)
- Gasevic, D., Adesope, O., Joksimovic, S., & Kovanovic, V. (2015). Externally-facilitated regulation scaffolding and role assignment to develop cognitive presence in asynchronous online discussions. *The Internet and Higher Education*, 24, 53-65. <https://doi.org/10.1016/j.iheduc.2014.09.006>
- Gaytan, J., & McEwen, B. C. (2007). Effective online instructional and assessment strategies. *The American Journal of Distance Education*, 21(3), 117-132. <https://doi.org/10.1080/08923640701341653>
- Ginder, S. A., Kelly-Reid, J. E., & Mann, F. B. (2018). *Enrollment and employees in postsecondary institutions, fall 2017; and financial statistics and academic libraries, fiscal year 2017: First look (Provisional data)*. National Center for Education Statistics.
- Glazier, R. A. (2016). Building rapport to improve retention and success in online classes. *Journal of Political Science Education*, 12(4), 437-456. <https://doi.org/10.1080/15512169.2016.1155994>
- Hacker, D. J., & Niederhauser, D. S. (2000). Promoting deep and durable learning in the online classroom. In R. E. Weiss, D. S. Knowlton, & B. W. Speck (Eds.), *Principles of effective teaching in the online classroom* (pp.53-64). Jossey-Bass.
- Henrie, C. R., Halverson, L. R., & Graham, C. R. (2015). Measuring student engagement in technology mediated learning: A review. *Computers & Education*, 90, 36-53. <https://doi.org/10.1016/j.compedu.2015.09.005>
- Hew, K. F. (2015). Student perceptions of peer versus instructor facilitation of asynchronous online discussion: Further findings from three case studies. *Instructional Science*, 43(1), 19-38. <https://doi.org/10.1007/s11251-014-9329-2>
- Holzweiss, P. C., Joyner, S. A., Fuller, M. B., Henderson, S., & Young, R. (2014). Online graduate students' perceptions of best learning experiences. *Distance Education*, 35(3), 311-323. <https://doi.org/10.1080/01587919.2015.955262>
- Hosler, K. A., & Arend, B. D. (2012). The importance of course design, feedback, and facilitation: Student perceptions of the relationship between teaching presence and cognitive presence. *Educational Media International*, 49(3), 217-229. <https://doi.org/10.1080/09523987.2012.738014>

- Jaggars, S. S., & Xu, D. (2016). How do online course design features influence student performance? *Computers & Education*, 95, 270-284. <https://doi.org/10.1016/j.compedu.2016.01.014>
- Johnson, J. (2003). Distance education: The complete guide to design, delivery, and improvement. Columbia University Press.
- Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60–70.
- Kumar, K. L., & Wideman, M. (2014). Accessible by design: Applying UDL principles in a first year undergraduate course. *Canadian Journal of Higher Education*, 44(1), 125-147.
- Lewis, C. C., & Abdul-Hamid, H. (2006). Implementing effective online teaching practices: Voices of exemplary faculty. *Innovative Higher Education*, 31(2), 83-98. <https://doi.org/10.1007/s10755-006-9010-z>
- Lohmann, M. J., Boothe, K. A., Hathcote, A. R., & Turpin, A. (2018). Engaging graduate students in the online learning environment: A universal design for learning (UDL) approach to teacher preparation. *Networks: An Online Journal for Teacher Research*, 20(2), 1-23. <https://doi.org/10.4148/2470-6353.1264>
- Lowenthal, P. R. (2010). The evolution and influence of social presence theory on online learning. In T. T. Kidd (Ed.), *Online education and adult learning: New frontiers for teaching practices* (pp. 124–139). IGI Global.
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, 22(1), 205-222. <https://doi.org/10.24059/olj.v22i1.1092>
- McBrien, J. L., Jones, P., & Cheng, R. (2009). Virtual spaces: Employing a synchronous online classroom to facilitate student engagement in online learning. *International Review of Research in Open and Distance Learning*, 10(3), 1-17. <https://doi.org/10.19173/irrodl.v10i3.605>
- Meyer, K. A. (2014). Student engagement in online learning: What works and why. *ASHE Higher Education Report*, 40(6), 1-14. <https://doi.org/10.1002/aehe.20018>
- Nandi, D., Hamilton, M., & Harland, J. (2012). Evaluating the quality of interaction in asynchronous discussion forums in fully online courses. *Distance Education*, 33(1), 5-30. <https://doi.org/10.1080/01587919.2012.667957>
- Oh, E. G., Huang, W. H. D., Hedayati Mehdiabadi, A., & Ju, B. (2018). Facilitating critical thinking in asynchronous online discussion: Comparison between peer-and-instructor-Redirection. *Journal of Computing in Higher Education*, 30(3), 489–509. <https://doi.org/10.1007/s12528-018-9180-6>
- Patterson, D. (2019). The power of the human face in online education. *International Journal of Adult Vocational Education and Technology*, 10(1), 13–26. <https://doi.org/10.4018/IJAVET.2019010102>
- Preisman, K. A. (2014). Teaching presence in online education: From the instructor's point of view. *Online Education*, 18(3), 1-16. <https://dx.doi.org/10.24059/olj.v18i3.446>
- Purarjomandlangrudi, A., Chen, D., & Nguyen, A. (2016). Investigating the drivers of student interaction and engagement in online courses: A study of state-of-the-art. *Informatics in Education*, 15(2), 269-286. <https://dx.doi.org/10.15388/infedu.2016.14>
- Redmond, P., Heffernan, A., Abawi, L., Brown, A., & Henderson, R. (2018). An online engagement framework for higher education. *Online Learning*, 22(1), 183-204. <https://doi.org/10.24059/olj.v22i1.1175>
- Robinson, C. C., & Hullinger, H. (2009). New benchmarks in higher education: Student engagement in online learning. *Journal of Education for Business*, 84(2), 101-109. <https://doi.org/10.3200/JOEB.84.2.101-109>
- Rose, D. H., & Meyer, A. (2002). *Teaching every student in the digital age: Universal design for learning*. ACSD Publishing.
- Rovai, A. P. (2007). Facilitating online discussions effectively. *Internet and Higher Education*, 10(1), 77-88. <https://doi.org/10.1016/j.iheduc.2006.10.001>
- Shea, P., Swan, C. S. Li and A. Pickett. (2005) Developing learning community in online asynchronous college courses: The role of teaching presence. *Journal of Asynchronous Learning Networks*, 9(4), 59-82. <https://dx.doi.org/10.24059/olj.v9i4.1779>
- Soffer, T., & Nachmias, R. (2018). Effectiveness of learning in online academic courses compared with face-to-face courses in higher education. *Journal of Computer Assisted Learning*, 34(5), 534–543. <https://doi.org/10.1111/jcal.12258>
- Wankel, C., & Blessinger, P. (Eds.). (2013). *Increasing student engagement and retention in e-learning environments: Web 2.0 and blended learning technologies*. Proquest. <https://ebookcentral.proquest.com>

- Watson, W., Richardson, J., & Loizzo, J. (2016). Instructor's use of social presence, teaching presence, and attitudinal dissonance: A case study of an attitudinal change MOOC. *International Review of Research in Open and Distributed Learning*, 17(3), 54–74. <https://doi.org/10.19173/irrodl.v17i3.2379>
- Yang, J. C., Quadir, B., Chen, N. S., & Miao, Q. (2016). Effects of online presence on learning performance in a blog-based online course. *The Internet and Higher Education*, 30, 11-20. <https://doi.org/10.1016/j.iheduc.2016.04.002>
- Young, S. (2006). Student views of effective online teaching in higher education. *American Journal of Distance Education*, 20(2), 65-77. https://doi.org/10.1207/s15389286ajde2002_2
- Young, S., & Bruce, M. A. (2011). Classroom community and student engagement in online courses. *Journal of Online Learning and Teaching*, 7(2), 1-13.
- Zhao, H. & Sullivan, K.P. (2017), Teaching presence in computer conferencing. *British Journal of Educational Technology*, 48(2), 538-551. <https://doi.org/10.1111/bjet.12383>