A Framework for Fostering Emerging Online Learner Persistence: The Role of Asynchronous and Synchronous Discussions

Staci Gilpin
School of Education, The College of St. Scholastica

Abstract

Undergraduate students living on-campus and taking online and face-to-face courses concurrently, are the predominant consumer of online classes (Seaman et al., 2018). However, they have lower rates of persistence for online courses as compared to face-to-face courses (Hart, 2012; Xu & Jaggars, 2011). Part of the reason could be due to the mismatch between the types of interactions they prefer and what is being provided in online courses. The purpose of this literature review is to investigate the use of asynchronous and synchronous discussions as a way to address the needs of emerging online learners. Using elements of previously developed frameworks, I propose the Framework for Emerging Online Learner Persistence (FEOLP). This framework addresses the values and needs of emerging online learners through course design that has the potential to enhance social presence using student values to determine the blend of asynchronous and synchronous interactions. Given the limited research to draw from on how to design online courses, this framework and the recommendations from this article provide a starting point for the responsive design of online courses for the emerging online learner with potential application to other groups of distinct online learners.

Introduction

Emerging online learners, identified as undergraduate students living on-campus (or within proximity), taking online and face-to-face courses concurrently, are the predominant consumer of online classes (Seaman et al., 2018). This should not come as a surprise because more and more undergraduates are looking for convenience and flexibility as they balance work, extracurriculars,

social lives, and family (Raza et al., 2020). Recent research indicates the quality of online courses are similar to face-to-face courses (Bowers & Kumar, 2015). However, students have lower rates of persistence, defined as completing a course with a passing grade, for online courses as compared to face-to-face courses (Hart, 2012; Xu & Jaggars, 2011). Part of the reason for the lower persistence rates could be because online courses continue to fall below face-to-face courses in terms of opportunities for students to have meaningful interactions with their peers (Paulsen & McCormick, 2020). As a result, it becomes difficult for emerging online learners to integrate and become part of the social fabric of an institution, which is deemed critical for student success (Tinto, 1993). Instructors often seek to address this deficit through text-based asynchronous discussion boards even though students often report dissatisfaction with these types of discussions because they lack the real-time authentic interaction and feedback they get in face-to-face courses (Majid et al., 2015). This wide-spread use of asynchronous text-based discussions could also be why online learners often report lower levels of social presence as compared to students enrolled in face-to-face classes (Zhan & Mei, 2013). Social presence is important because higher levels lead to better outcomes for online learners (Joksimovic et al.,2015; Liu et al., 2009; Zhan & Mei, 2013). The way to increase social presence is through quality interactions, not a precise amount or number (Garrison & Cleveland-Innes, 2005). However, despite the research, there is not a consensus among online course designers and online instructors on how to design interactions for online learners in general nor distinct groups.

Thus, the task at hand is to provide guidance around how to create opportunities for interactions that allow emerging online learners to interact with their peers in a manner, as shared by Mehall (2020), "that is not fake or forced but meaningful and purposeful" (p. 185). Some assert online instructors can perhaps address the need for more authentic student-to-student interaction, and by proxy, increase social presence, through the use of synchronous video conferencing tools (Goroshit, 2018; Hart 2012; Leeds et al., 2013; Liu et al., 2009; Northrup, 2009; Zhan & Mei, 2013). Others suggest that blending asynchronous and synchronous tools can assist with retaining students who otherwise fail to persist in online courses (Hart, 2012: Joksimovic et al., 2015; Leeds et al.; 2013; Liu et al., 2009; Northrup, 2009; Zhan & Mei, 2013). Hence, there seems to be a case to shift away from the heavy reliance on asynchronous discussion boards. Still, the slope gets slippery when beginning to introduce synchronous tools because now the flexibility and convenience students desire becomes compromised. It might come down to the format for communicating that distinct groups of students value the most. The form they value most, in turn, motivates them (Wigfield & Eccles, 2000). As a result, student values, in combination with indicators of social presence, have the potential to provide insights into the type of discussions (e.g., synchronous and asynchronous) and the blend of each to include in online courses. All things considered, this lack of clarity around how to best support online learner persistence in general and that of distinct groups warrants further exploration.

To that end, the purpose of this literature review is to investigate the use of asynchronous and synchronous discussions as a way to address the needs of emerging online learners. To begin, I will use the research to identify the characteristics of emerging online learners. These characteristics provide a foundational precursor to the research about course design that addresses the unique needs of this group. The section about course design covers topics related to social presence and online tools (those that facilitate asynchronous and synchronous interactions) along with the role of student values. At this point, the struggle and tension when designing online courses for emerging online learners should be evident. Specifically, supporting their need for authentic interaction with their peers, while still keeping some semblance of their desire for the flexibility afforded by online learning, are essential considerations in designing for student

persistence. To address this need, I suggest the use of both asynchronous and synchronous discussions, but determining the blend is not easy. To move past this tension, I introduce the role of student values and their role in determining the optimal blend of asynchronous and synchronous discussions. Finally, I share how practitioners and researchers can use the proposed framework as a roadmap to support the success of emerging online learners.

Towards a Conceptual Framework

At present, there is not a framework to support online course designers and online instructors in designing interactions for distinct groups of online learners. The review of the literature about online instruction and online learners reveals patterns and relationships that offer conceptual orientations for understanding and analyzing emerging online learners' needs and types of interventions for successful learning outcomes. Using these orientations, I designed the Framework for Emerging Online Learner Persistence (FEOLP) (Figure 1) that can be applied to further research and practice. FEOLP shows that there is perhaps a connection between social presence, online course tools, student values, and their collective impact on student persistence. Student values, in combination with indicators of social presence, are essential to consider when determining the type of discussions (e.g., synchronous and asynchronous) and the blend of each to include in online courses.
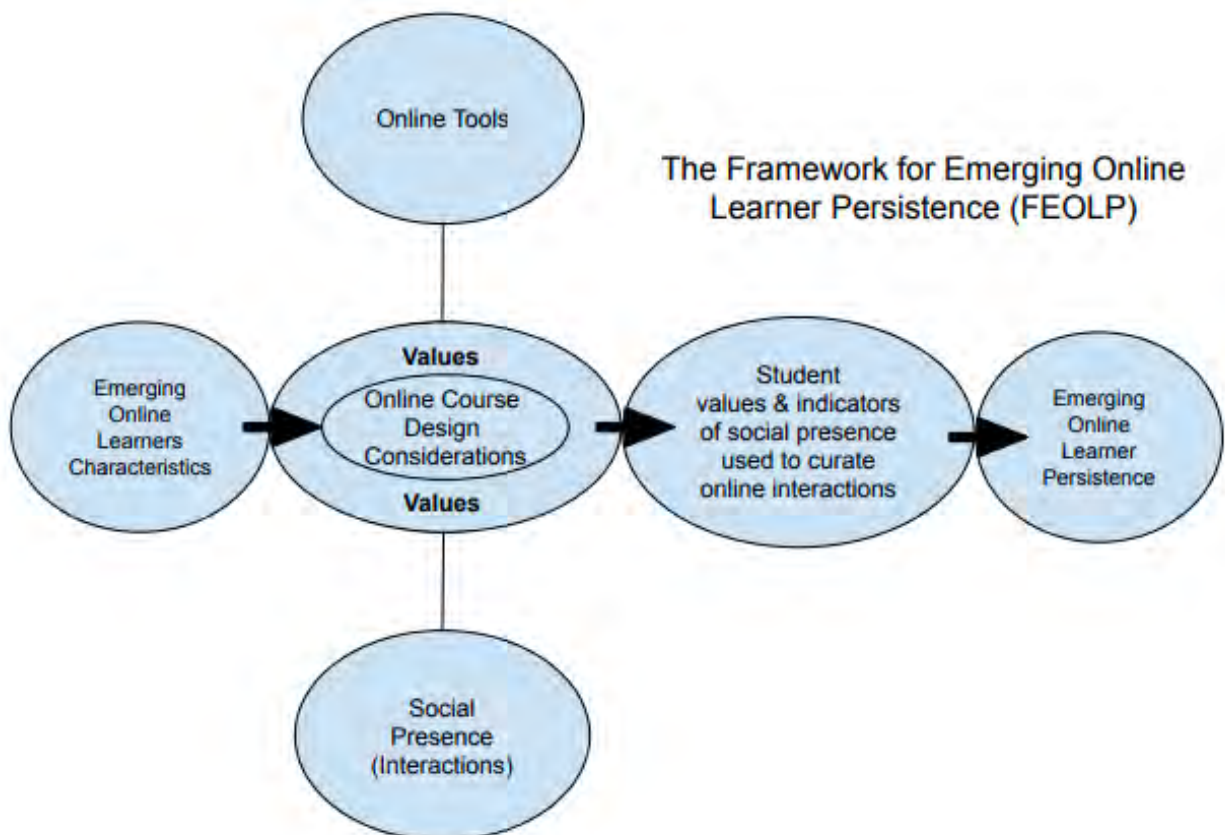

Figure 1. The Framework for Emerging Online Learner Persistence

The following sections use FEOLP as a road map to highlight research and evidence that helps to illustrate these connections and provide a foundation for developing an understanding of both the needs of emerging online learners and instructional design to address those needs.

Emerging Online Learner Characteristics

First and foremost, it is vital to understand who the emerging online learners are and how they differ from online learners of yesteryear. It seems the iconic distance learner of the 20th Century/early 21st Century who was independent, geographically isolated or bound, an older adult, self-motivated, and goal-oriented is no longer as prevalent. As we move deeper into the 21st Century and technology continues to evolve at a rapid pace, the distance education population is shifting to learners that are more diverse, tentative, and younger (Bawa, 2016; Dabbagh, 2007). Emerging online learners are younger and often live on-campus (or within proximity) while taking a mix of face-to-face and online undergraduate courses offered by post-secondary institutions due to the flexibility the online courses afford students (Raza et al., 2020; Seaman et al., 2018). Undergraduate online courses are growing nearly equally across all subject areas and majors. To illustrate, the percentage of undergraduate students enrolled in at least one online course increased from 15% during the 2003-2004 academic year to 45% during the 2015-2016 academic year (National Center for Education Statistics, 2016). That is not to say, students, that once had limited access to post-secondary education due to geography, family, or work schedules, are still not taking online courses (Johnson & Palmer, 2015; Ortagus, 2018). Instead, the challenge lies in that the online learner's profile is emerging, heterogeneous, and becoming younger and younger.

At the same time, it is essential to note emerging online learners also understand, value, and engage in social interaction and collaborative learning and possess strong interpersonal and communication skills (Bawa, 2016; Dabbagh, 2007). To illustrate, Croxton's (2014) literature review and Walker and Kelly's (2007) survey of approximately 300 undergraduate and graduate students both assert undergraduate students enjoy interactions with their peers more so than graduate students. To add to that, students who are dissatisfied with online courses share the root cause is due to a lack of connection with the instructor and their peers (Borup et al., 2012; Pinsk et al., 2014), whereas student satisfaction leads to motivation, persistence, and positive outcomes (Kaufman, 2015). This dissatisfaction, in part, could be caused by the widespread use of asynchronous, text-based discussions as the most commonly used technology in online courses to facilitate communication. Lee and Choi (2011), share student-to-student interaction, which occurs in discussion boards, decreased withdrawal rates from online courses. Yet, students report dissatisfaction with asynchronous text-based discussions because they lack the real-time authentic interaction and feedback they get in face-to-face courses (Majid et al., 2015). Besides, asynchronous discussions can be scary for students who lack confidence because their posts will be visible for a long time, which can feel threatening (Darby et al., 2020). Moreover, Hart (2012) reviewed over 100 pieces of literature published after 1999 related to factors leading to persistence in online courses. All in all, Hart's (2012) analysis of variables associated with positive and negative impacts on student persistence suggests the importance of student comfort with the discussion format as a critical factor related to student persistence in online courses. Thus, maybe emerging online learners, who are younger and tentative, feel isolated and a lack of social presence due to the design of online courses not meeting their needs for safe and authentic interactions. In the end, they drop out.

Furthermore, a conversation about undergraduate student attrition is not complete without discussing the research of Vincent Tinto. Tinto is well known for his social integration theory and

his research on post-secondary student persistence and retention. His study on undergraduate students attending face-to-face classes indicates they need both academic and social integration to persist in post-secondary education (Tinto, 1993). Therefore, this should also hold for undergraduate students enrolled in online courses. As a result, emerging online learners might be lacking social integrations in online classes due to the lack of real-time interactions with others because the primary mode of communication is asynchronous text-based discussions. Paulsen and McCormick (2020) support this notion in their analysis of the 2015 National Survey of Student Engagement data. One of their findings indicates online courses, as compared to face-to- face courses, lack opportunities for collaboration and interaction. Once again, it seems a lack of social interactions might cause emerging online learners to drop out of online courses more often than face-to-face courses.

In summary, it should not be surprising that the attrition rates shared earlier for undergraduates are higher for online courses as compared to face-to-face courses (Hart, 2012; Xu & Jaggars, 2011). The likely cause is because interactions and collaboration are deemed critical to the emerging online learner (Bawa, 2016: Borup et al., 2012; Croxton, 2014; Dabbagh, 2007; Pinsk et al., 2014; Walker & Kelly, 2007) and are necessary for post-secondary persistence (Tinto, 1993), yet often lacking in online courses. It seems the task for the higher education community is to capitalize on emerging online learners' strengths in the areas of interpersonal and communication skills. One way to accomplish this is perhaps through the use of new technologies available recently in both asynchronous and synchronous formats, which allow for text, audio, and video communication. In the end, a blend of both asynchronous and synchronous discussions may lead to increased persistence and higher course completion rates.

Online Course Design Considerations

When designing online courses, there is limited research to draw from compared to the significant knowledge base in the scholarship of teaching and learning for the traditional face-to-face classroom. As Nuriddin (2011) asserts, creating online interactions are challenging, the research in the field is sparse, and there is not a "blueprint for building the perfect interaction" (p. 32). With the advent of online courses, the need for a new realm of pedagogy has emerged beside an ever-advancing technological landscape and an ever-changing online learner. While the research-base is sparse, three key themes continue to come up that are important to consider when designing instruction for emerging online learners. Namely, they value interaction and collaboration, especially those interactions that provide immediate feedback. Therefore, it is essential to consider social presence, online tools (asynchronous and synchronous) that support interactions, and the role of student values in designing the interactions.

Social Presence

Researchers often mention the connection between social presence and student success in online courses. As a result, it is worth a more in-depth analysis and consideration when planning online courses. According to Garrison et al. (2000), social presence has to do with the way online learners interact with one another and the instructor and is concerned with the development of relationships and community in online courses. It is one of three core elements, which are part of the Community of Inquiry (CoI) conceptual framework, along with cognitive presence and teaching presence (Garrison et al., 2000). CoI framework is often used in online research (Leader-Janssen et al., 2016). It is based on the idea that learning occurs through a community and was developed to assess online programs; the three presences can be used together or independently

(Garrison et al., 2000). Since this review of literature is looking at interactions, I will only consider social presence.

Online learning can be lonely. Students can feel isolated when they spend hours studying alone and interacting only with a computer. Liu et al. (2009) share social presence has to do with one's feelings, perceptions, and reactions to others in an academic setting, which could be peers or the instructor. Their study of community college students suggests a reason for the higher attrition rates for online post-secondary courses might be because online students feel isolated and a lack of social presence due to limited social interactions. Garrison et al. (2000) add that social presence refers to the ability of individuals to establish themselves as real people in online courses. In turn, the influence of interactions with others sustains or enhances social presence along with learner motivation and, by extension, students' satisfaction with courses (Garrison et al., 2003; Richardson & Swan, 2003). In face-to-face classes, students often are presented with opportunities to engage in synchronous conversational exchanges with their peers and instructors, which foster a sense of community and belonging, leading to enhanced social presence. While in the majority of online courses, students usually are only afforded asynchronous opportunities, such as email and other forms of text-based discussion boards. As a result of students feeling isolated and a lack of social presence often attributed to only communicating asynchronously via text, some eventually stop attending (Liu et al., 2009).

Additionally, some empirical studies have shown social presence to predict course retention, student satisfaction, and overall performance in online courses. Joksimovic et al. (2015) support this in their study of a master's level computer science course. Their results indicate that social presence indicators are predictive of final student grades and, in turn, student success. They go on to discuss the use of social presence indicators for early detection of students at risk of failing a course. Liu et al. (2009) had similar findings in their quantitative study of community college students. Both sets of researchers suggest the use of blended learning programs (e.g., using both asynchronous and synchronous interactions) as a way to enhance student social presence leading to improved persistence.

Similarly, Zhan and Mei (2013) studied undergraduate students enrolled in online and face-to-face digital design courses. Their results indicate that students enrolled in the online courses required higher levels of social presence as compared to students enrolled in face-to-face classes. The way to increase social presence is through sustained or increased opportunities for social interactions. They suggest synchronous video discussions rather than text-based asynchronous discussions may help enhance online students' social presence, which may lead to better performance and attitudes. In conclusion, this smattering of studies across different levels of online post-secondary education, all highlight the need for social interactions and suggest the way to go about this is through the use of synchronous interactions or a combination of both synchronous and asynchronous interactions.

In online courses, interactions occur between student-student, student-instructor, and student-content. Anderson (2003), in his interaction equivalency theorem, asserts at least one of the three forms of interaction needs to be present at a sufficiently high level for learning to occur. Even though student-content interaction can be a strong predictor of student success, social interactivity between student-student and student-instructor seem to be more important, and this importance varies based on undergraduate versus graduate status and whether the interaction was asynchronous or synchronous (Croxton, 2014). Empirical findings such as those shared earlier from Walker and Kelly (2007), who studied graduate and undergraduate students, find that undergraduate students value student-student interactions more than graduate students. At the same time, undergraduates still crave timely interactions with their instructors. Still, the disparity

between graduates and undergraduates does not seem to be as large as it is when it comes to student-student interactions. Simply put, it once again seems emerging online learners crave social interaction and collaboration with their peers.

That being the case, more interaction is not always better. Moore (1989) asserts interactions in the online environment need to be thoughtfully planned because too much interaction might be considered busy work, cause students to feel overwhelmed, and lead to students that are not satisfied. On the other hand, too little might lead to isolation. In view of this, it is essential to find a balance. Downing et al. (2007) recommend that online interactions are focused on educational benefit, and once that is accomplished, the interactions are no longer needed. They theorize that once students have the information they need to complete a task, they disengage, and any further required interactions become busywork. Cho and Tobais (2016) add support for Downing et al.'s (2007) and Moore's (1989) assertions in their study of undergraduates enrolled in a fully online course. They caution that not all courses may warrant discussions. Instead of unilaterally including discussions in online courses, they recommend instructors consider several factors, including content and learner characteristics, when determining the need and type of interactions. Angelino et al. (2007) also weigh in on this topic in their integrated review of literature related to online post-secondary students and attrition. They assert getting the balance of interactions right, leads to increases in social presence, student engagement and satisfaction, student persistence, and retention. Moreover, Garrison and Cleveland-Innes (2005) conclude interactions must be purposeful, and it is about the quality of interactions rather than the quantity. Ultimately, the discourse needs to be rich and purposeful, but there is little research around what this looks like in the online environment in general nor for distinct groups. Regardless of the use of asynchronous or synchronous technologies to facilitate interactions, the research indicates instructors must thoughtfully plan them to impact online student social presence positively.

Online Tools

As previously stated, meaningful social interactions are vital for supporting emerging online learners. There are two types of tools online instructors use to facilitate interactions and nurture social presence. The majority of communication in online courses is asynchronous, with 92% of post-secondary institutions delivering courses using these types of tools (National Center for Education Statistics, 2016). Asynchronous tools utilize a one-way approach for information exchange in which the students and instructors do not simultaneously interact. This type of communication often occurs through instructor recorded video lectures and text-based student-to-student and instructor-to-student dialogue (Leader-Janssen et al., 2016). In contrast, 19% of institutions offering online courses incorporate synchronous technologies (National Center for Education Statistics, 2016). The use of synchronous technologies, such as video conferencing, brings online students and instructors together simultaneously in virtual spaces (Leader-Janssen et al., 2016). Occasionally, a blend of the two technologies are used in online courses; unfortunately, data around this usage is unavailable. In the following sections, I share highlights of the three types of delivery and the implications for emerging online learners.

Asynchronous tools. As noted earlier, text-based asynchronous discussions are the prevalent technology used in online courses. Online asynchronous discussions carried out in this format are beneficial to students as they engage in learning tasks with their peers that promote critical thinking (Aloni & Harrington, 2018), social presence (Akcaoglu & Lee, 2016), and help with procrastination (Michinov et al., 2011). However, remember even though these types of discussions improve attrition rates (Lee & Choi, 2011), students report dissatisfaction with asynchronous text-based discussions because they lack the real-time authentic interactions they

get in face-to-face courses (Majid et al., 2015). An alternative to the text-based asynchronous discussion posts that only recently came onto the radar due to rapid technological advancements is recording and uploading short audio and video clips. These new advances now make it possible to post in a multi-modal format to Learning Management Systems (LMS) discussion boards, using text, audio and video (Ching & Hsu, 2013). Thus, offering students a choice in how they interact with their peers. Due to the newness of these technologies, the research identified about student-created asynchronous audio and video that are part of multi-modal platforms seems to be more theoretical rather than empirical. It is also important to note that while instructors sharing asynchronous videos with their students is often used (Borup et al. 2012), I did not explore the research related to these types of videos. This is because they do not address the needs of the emerging online learner as directly as other types of previously mentioned video. After all, these types of videos are often recorded by the instructor to communicate course content and viewed by students. There typically is not back and forth dialogue between students and the instructor.

All of that being said, I will highlight two studies around the use of student-created asynchronous video to illustrate how asynchronous video is used and the impact on student social presence. To begin, Pinsk et al. (2014) studied five online non-traditional undergraduate students' use of student-to-student asynchronous video discussion posts. They concluded the use of these posts did seem to create a sense of social presence for the students. This study is important because the research in this area is limited, but the implications of the results are limited due to the small sample size. Griffith and Graham (2009) included a pilot study in an article they published about the use of asynchronous technologies. In their pilot study, all of the students attended the same campus and were taking an online course. Students created video clips and shared them with their peers and the instructor. The pilot study used surveys and course evaluations to collect feedback with results indicating social presence using asynchronous video could mirror social presence found in face-to-face environments. Once again, the sample size was small, and I was unable to discern if the students studied were graduate or undergraduates, which, as we have learned, is an essential consideration because not all online learners are the same. None the less, these studies indicate with asynchronous video, students still get to maintain that "anytime anywhere" aspect of online learning they desire (Raza et al., 2020) with perhaps the same benefits of real-time face-to-face interactions.

I also came across two studies that are noteworthy around the use of asynchronous audio, video, and text. Both studies used VoiceThread, which is a multi-modal tool that can be embedded in most LMS to allow students to make audio or video presentations, and to comment on other's posts through text, audio, and video (Ching & Hsu, 2013). For starters, Ching and Hsu (2013) examined instructional design graduate students' experiences using VoiceThread in an entirely online course. Interestingly, when given a choice more than half the participants in this study interacted with their peers using audio, followed by text and video. Also, half of the students felt more connected to their peers as a result of participating in a multi-modal discussion as compared to text-only discussions, and they preferred these types of multi-modal discussions over text-only discussions. Students shared the biggest benefit of this experience was they were able to communicate emotion, personality, and other non-verbal cues, which allowed them to interpret others' thoughts better. Again, the interactions were more authentic. Another study conducted by Delmas (2017) surveyed students in a fully online master's program and in a blended doctoral program regarding their experiences using VoiceThread in their courses. Results indicated that students perceived VoiceThread positively in the creation of an online community. Students reported feeling more connected with their classmates due to the tool's ability to add voice to online activities. In summary, even though neither of these studies directly measured social

presence, the information gleaned appears to have positive implications for social presence. Therefore, the inclusion of asynchronous multi-modal student-to-student discussions in online courses and future research is an important element because the power of asynchronous audio and video are perhaps untapped as alternatives or complements to text-based discussions.

　　Synchronous tools. According to Moallem (2015), one of the emerging technology tools for online learning that holds promise in addressing this resistance to asynchronous text-based discussions are synchronous video conferencing tools (e.g., Blackboard Collaborate, Zoom, WebEx, Adobe Connect, Cisco Telepresence). The use of synchronous technologies, such as video conferencing, brings online students and instructors together simultaneously in virtual spaces (Leader-Janssen et al., 2016). These tools provide the opportunity for real-time, student-to-student, and student-to-instructor interaction in online environments in a multi-modal manner through text, audio, and video. When used effectively, synchronous tools can support students in experiencing much closer to what is possible in face-to-face courses than what asynchronous tools can provide. Thus, potentially emulating the face-to-face environment in the online realm.

　　Unfortunately, studies around the use of synchronous video conferencing tools are sparse. The primary reason regarding the lack of synchronous elements in online courses is because a real-time component impacts the flexibility and convenience that students want from online courses (Raza, et al., 2020). All of this aside, much like the arguments in support of multi-modal asynchronous tools, those in favor of synchronous video conferencing in online courses seem to be more theoretical (Goroshit, 2018; Hart 2012; Leeds et al., 2013; Liu et al., 2009; Northrup, 2009; Zhan & Mei, 2013) rather than empirical because there are only a limited number of studies about the actual use of synchronous video conferencing tools in online courses. However, I located a few studies through my review of literature that are worth mention.

　　To begin, Skylar (2009) conducted a comparison study between asynchronous and synchronous online instruction involving 40 undergraduate students who were pursuing teacher licensure. Almost three-fourths of the students indicated they would rather take an online course that uses synchronous video conferencing technologies instead of a course relying solely on text-based asynchronous technologies. Similarly, the findings of Ragusa and Crampton's (2018) quantitative study with 122 undergraduates enrolled in a variety of online courses indicates those with a synchronous component felt a greater connection to their class. An opportunity may reside in information Bonnici et al., (2016) share in their case study of graduate students regarding that outside of the factor of convenience, this distinct group of online students preferred synchronous course delivery over asynchronous primarily for the connection with peers that supports their learning. The research, albeit limited, suggests that synchronous interactions via video conferencing technology in online courses are a promising means to increased social presence and student satisfaction leading to improvements in online course completion rates.

　　Blended: using both asynchronous & synchronous tools. As mentioned earlier, some researchers suggest a shift in the online course delivery format from one that is primarily asynchronous to one that incorporates more synchronous opportunities for communication as a way to increase social presence leading to student satisfaction, engagement, and overall success Yet, often only one type of technology is used; however, the literature suggests a better course design is blended delivery, which incorporates asynchronous and synchronous tools (Hart, 2012: Joksimovic et al., 2015; Leeds et al.; 2013; Liu et al., 2009; Northrup, 2009; Zhan & Mei, 2013). The research, once again, is more theoretical rather than empirical and sparse. While this may be true, one study shows promise in the use of both types of tools. Clark et al. (2015), quantitatively investigated the impact of asynchronous and synchronous video along with a text-based discussion on the levels of social presence within an undergraduate online teacher education course. Sixteen

students self-reported via a survey that social presence was significantly higher when using the video in both an asynchronous and synchronous manner. As a result, maybe it does not matter if the video is asynchronous or synchronous? Or maybe audio is good enough? Instead, the critical aspect perhaps is seeing and hearing others asynchronously with occasional real-time interactions. However, when a synchronous component becomes part of an asynchronous course, this jeopardizes the flexibility and convenience emerging online learners desire, but what if the benefits of the synchronous element are such that it might outweigh the costs? The cost (e.g., emotional and time) of the real-time synchronous discussion now becomes paramount to the emerging online learner. It might come down to the format for communicating that students value the most. The form they value most, in turn, motivates them. In that case, the information about what they value the most in tandem with social presence indicators becomes vital to designing purposeful asynchronous and synchronous discussions in online courses.

Student Values

As a result, it is essential to consider students' values when designing courses for emerging online learners. One approach is the expectancy-value theory. According to Wigfield and Eccles (2000), in this theory, one's attitudes toward a task in terms of its perceived value are fundamental toward motivation to complete the task and learn the material. The perceived value consists of utility and intrinsic values (Eccles & Wigfield, 2002). Utility value or usefulness is related to how much a task or content connects to one's future (Hulleman et al., 2017). In contrast, the basis of intrinsic value is about how enjoyable or exciting someone finds a task or activity. An intrinsically valued activity provides many positive psychological consequences (Eccles & Wigfield, 2002). We should not ignore the cost of tasks or activities. The cost refers to how the decision to engage in one activity limits access to other activities, the effort needed to accomplish the activity, and its emotional cost (Eccles & Wigfield, 2002). Previous frameworks and studies have not looked at online student values. Thus, it is vital to consider the values of the emerging online learner when designing online courses because it really could come down to what students want and value. If the use of asynchronous and synchronous audio, video, and text supported discussions can create similar levels of social presence and possibly levels identical to face-to-face courses, then why not let students decide the amount of each to include in online classes? Or provide them a choice? Or offer them some of each?

In summary, the purpose of this literature review was to investigate the use of asynchronous and synchronous discussions as a way to address the needs of emerging online learners, identified as undergraduate students living on-campus (or within proximity) and taking online courses. To address their needs, I used FEOLP as a roadmap. More broadly, FEOLP combines elements of other well-known frameworks and theories in a novel way to address the needs of emerging online learners through course design that has the potential to enhance social presence using student values to determine the blend of asynchronous and synchronous discussions. All that being said, how can FEOLP be used by researchers and practitioners to support responsive course design for emerging online learners?

Implications for Practice and Research

For practitioners, I recommend a combination of synchronous and asynchronous discussions. This blend allows emerging online learners to have some semblance of the "anytime, anywhere" aspect of online learning they desire (Raza, et al., 2020) while also fostering higher levels of social presence that leads to student success (Hart, 2012; Joksimovic et al., 2015; Leeds et al., 2013; Liu

et al., 2009; Zhan & Mei, 2013). Furthermore, student values, in combination with indicators of social presence, are essential to consider when determining the type of discussions (e.g., synchronous and asynchronous) and the amount of each to include in online courses. Remember, too much or too little interaction can lead to adverse student outcomes (Angelino et al., 2007; Cho & Tobais, 2016; Downing et al., 2007; Garrison & Cleveland-Innes, 2005; Moore, 1989). Practitioners can assess levels of social presence and student attitudes through simple online surveys or informal interviews/conversations and then use that information to plan the types and amounts of discussions within their courses. Another option is to provide students with choice in how they interact with their peers within asynchronous discussions. Choice can easily be accomplished by those that are fortunate to have an LMS like Canvas or Desire2Learn that has built-in audio and video recording tools in their discussion boards along with text. There are also other tools like Voice Thread and Flip Grid that can accomplish similar things (Delmas, 2017: Ching & Hsu, 2013). Yet, another possibility is to provide students with a choice about whether they participate in discussions asynchronously or synchronously. They can opt to participate in either asynchronous or synchronous discussions. Students could sign up ahead of time, and then the instructor could put them into groups based on their preference. In summary, it is all about being aware of the needs of emerging online learners and responding appropriately.

As for researchers, the research-base is limited and more theoretical rather than empirical in regard to asynchronous and synchronous elements in online courses. Therefore, future research should look at how the use of both asynchronous and synchronous discussions impacts emerging online learners and also other distinct groups of online learners. Researchers can accomplish this through studies comparing online student reports of social presence and values across a variety of content areas and student demographics to determine if a relationship between the two exists. It is also essential to compare levels of social presence and values for online courses using either or both types of communication along with incorporating multi-modal tools. Specifically, a closer look should be taken at the new tools that support multi-modal (e.g., text, audio, and video) asynchronous and synchronous interactions. For instance, do multi-modal asynchronous and synchronous tools used for student-to-student interactions yield similar levels of social presence? If so, do students value one more than the other? These comparisons might help address what needs to happen instructionally in online classes for student levels of social presence to be at a level that is required to be on par with that of face-to-face courses. Practitioners and decision-makers could then use the recommendations that come from these studies to improve online courses. In the end, with practitioners and researchers working hand in hand utilizing FOELP as a roadmap, attrition rates for the emerging online learners should do nothing but improve.

Conclusion

Ultimately, higher education leaders, instructors, and course designers need to move beyond a "one-size" fits all approach to designing online learning experiences and instead look at the needs of distinct groups of learners to provide meaningful learning experiences in which students persist. Emerging online learners understand, value, and engage in social interaction and collaborative learning and possess strong interpersonal and communication skill while craving authentic interactions. Thus, synchronous discussions in combination with asynchronous discussions determined in part by levels of social presence and values could be the way to increase student persistence for emerging online learners. Ideally, multi-modal technologies allowing for text, audio, and video interaction would also be included. In the end, give emerging online learners

some authentic interactions while still affording them the flexibility they desire as they juggle their busy lives.

References

Abrami, P. C., Bernard, R. M., Bures, E. M., Borokhovski, E., & Tamim, R. M. (2011). Interaction in distance education and online learning: Using evidence and theory to improve practice. *Journal of Computing in Higher Education, 23*(2-3), 82-103. https://doi.org/10.1007/s12528-011-9043-x

Aloni, M., & Harrington, C. (2018). Research-based practices for improving the effectiveness of asynchronous online discussion boards. *Scholarship of Teaching and Learning in Psychology, 4*(4), 271. https://psycnet.apa.org/doi/10.1037/stl0000121

Akcaoglu, M., & Lee, E. (2016). Increasing social presence in online learning through small group discussions. *International Review of Research in Open and Distributed Learning, 17*(3). https://doi.org/10.19173/irrodl.v17i3.2293

Angelino, L. M., Williams, F. K., & Natvig, D. (2007). Strategies to engage online students and reduce attrition rates. *Journal of Educators Online, 4*(2), Article 2.

Anderson. T. (2003). *Interaction Equivalency Theorem*.

Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *Sage Open, 6*(1). https://doi.org/10.1177%2F2158244015621777

Bonnici, L. J., Maatta, S. L., Klose, M. K., Julien, H., & Bajjaly, S. (2016). Instructional style and learner-centered approach: a cross-institutional examination of modality preference for online course delivery in a graduate professional program. *Studies in Higher Education, 41*(8), 1389-1407. https://doi.org/10.1080/03075079.2014.977860

Borup, J., West, R. E., & Graham, C. R. (2012). Improving online social presence through asynchronous video. *The Internet and Higher Education, 15*(3), 195-203. https://doi.org/10.1016/j.iheduc.2011.11.001

Bowers, J., & Kumar, P. (2015). Students' perceptions of teaching and social presence: A comparative analysis of face-to-face and online learning environments. *International Journal of Web-Based Learning and Teaching Technologies, 10*(1), 27-44. https://doi.org/10.4018/ijwltt.2015010103

Cho, M. H., & Tobias, S. (2016). Should instructors require discussion in online courses? Effects of online discussion on community of inquiry, learner time, satisfaction, and achievement. *International Review of Research in Open and Distributed Learning, 17*(2). https://doi.org/10.19173/irrodl.v17i2.2342

Ching, Y.-H., & Hsu, Y.-C. (2013). Collaborative learning using VoiceThread in an online graduate course. *Knowledge Management & E- Learning, 5*(3), 298–314. https://doi.org/10.34105/j.kmel.2013.05.021

Clark, C., Strudler, N., & Grove, K. (2015). Comparing asynchronous and synchronous video vs. text-based discussions in an online teacher education course. *Online Learning, 19*(3), 48-69.

Croxton, R. A. (2014). The role of interactivity in student satisfaction and persistence in online learning. *Journal of Online Learning and Teaching, 10*(2), 314.

Dabbagh, N. (2007). The online learner: Characteristics and pedagogical implications. *Contemporary Issues in Technology and Teacher Education, 7*(3), 217-226.

Darby, F., Sathy, V., & Goodson, L. (2020, April 15) *Planning and facilitating quality discussions* [Webinar]. Sponsored by Association of College and University Educators, (ACUE).

Delmas, P.M. Using VoiceThread to create community in online learning. *Tech Trends 61*, 595–602 (2017). https://doi.org/10.1007/s11528-017-0195-z

Downing, K. J., Lam, T., Kwong, T., Downing, W., & Chan, S. (2007). Creating interaction in online learning: A case study. *Research in Learning Technology, 15*(3), 201-215. https://doi.org/10.1080/09687760701673592

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*, 109–132. https://doi.org/10.1146/annurev.psych.53.100901.135153

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education, 2*(2-3), 87-105.

Garrison, D. R., Anderson, T., & Archer, W. (2003). A theory of critical inquiry in online distance education. *Handbook of Distance Education, 1*, 113-127.

Garrison, D. R., & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online earning: Interaction is not enough. *The American Journal of Distance Education, 19*(3), 133-148.

Goroshit, M. (2018). Academic procrastination and academic performance: An initial basis for intervention. *Journal of Prevention & Intervention in the Community, 46*(2), 131-142. https://doi.org/10.1080/10852352.2016.1198157

Griffith, M., & Graham. C. (2009). The potential of asynchronous video in online education. *Distance Learning, 6*, 13-23.

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

Hulleman, C., Kosovich, J., Barron, K., & Daniel, D. (2017). Making connections: Replicating and extending the utility value intervention in the classroom. *Journal of Educational Psychology, 109*, 387-404. https://psycnet.apa.org/doi/10.1037/edu0000146

Joksimović, S., Gašević, D., Kovanović, V., Riecke, B. E., & Hatala, M. (2015). Social presence in online discussions as a process predictor of academic performance. *Journal of Computer Assisted Learning, 31*(6), 638-654. https://doi.org/10.1111/jcal.12107

Johnson, D., & Palmer, C. C. (2015). Comparing student assessments and perceptions of online and face-to-face versions of an introductory linguistics course. *Online Learning, 19*(2), Article 2. https://doi.org/10.24059/olj.v19i2.449

Kauffman, H. (2015). A review of predictive factors of student success in and satisfaction with online learning. *Research in Learning Technology, 23*, 26507. https://doi.org/10.3402/rlt.v23.26507

Leader-Janssen, E. M., Nordness, P. D., Swain, K. D., & Hagaman, J. L. (2016). Students' perceptions of an online graduate program in special education for emotional and behavioral disorders. *Teacher Education and Special Education*, 39(4), 246-258. https://doi.org/10.1177%2F0888406416637411

Lee, Y., & Choi, J. (2011). A review of online course dropout research: Implications for practice and future research. *Educational Technology Research and Development, 59*(5), 593-618. https://doi.org/10.1007/s11423-010-9177-y

Leeds, E. M., Campbell, S. M., Baker, H., Ali, R., Brawley, D., & Crisp, J. (2013). The impact of student retention strategies: An empirical study. *International Journal of Management in Education, 7*(1), 22–43. https://doi.org/10.1504/IJMIE.2013.050812

Liu, S. Y., Gomez, J., & Yen, C. J. (2009). Community college online course retention and final grade: Predictability of social presence. *Journal of Interactive Online Learning, 8*(2), 165–182.

Majid, S., Idio, C. D., Liang, S., & Zhang, W. (2015). Preferences and motivating factors for knowledge sharing by students. *Journal of Information & Knowledge Management, 14*(1), 1550004. https://doi.org/10.1142/s0219649215500045

Mehall, S. (2020). Purposeful interpersonal interaction in online learning: What is it and how is it measured? *Online Learning, 24*(1), 182-204. https://doi.org/10.24059/olj.v24i1.2002

Michinov, N., Brunot, S., Le Bohec, O., Juhel, J., & Delaval, M. (2011). Procrastination, participation, and performance in online learning environments. *Computers & Education, 56*(1), 243-252. https://doi.org/10.1016/j.compedu.2010.07.025

Moallem, M. (2015). The impact of synchronous and asynchronous communication tools on learner self-regulation, social presence, immediacy, intimacy, and satisfaction in collaborative online learning. *The Online Journal of Distance Education and e-Learning, 3*(3), 55-77.

Moore, M. G. (1989). Three types of interaction. *American Journal of Distance Education, 3*(2), 1-7. https://doi.org/10.1080/08923648909526659

National Center for Education Statistics (2016). *Digest of education statistics*. Retrieved from https://ies.ed.gov/

Northrup, P. T. (2009). Online learners' preferences for interaction. In A. Oerllana, T. L. Hudgins, & M Simonson (Eds.), *The perfect online course: Best practices for designing and teaching* (pp. 463-473). Information Age.

Nuriddin, H. (2011). Building the right INTERACTION. *T+D, 65*(3), 32–35.

Ortagus, J. C. (2018). National evidence of the impact of first-year online enrollment on post-secondary students' long-term academic outcomes. *Research in Higher Education, 59*(8), 1035-1058. https://doi.org/10.1007/s11162-018-9495-1

Paulsen, J., & McCormick, A. C. (2020). Reassessing disparities in online learner student engagement in higher education. *Educational Researcher, 49*(1), 20–29. https://doi.org/10.3102/0013189X19898690

Pinsk, R., Curran, M. J., Poirier, R., & Coulson, G. (2014). Student perceptions of the used of student-generated video in online discussions as a mechanism to establish social presence for non-traditional students: A case study. *Issues in Information Systems, 15*(1).

Ragusa, A. T., & Crampton, A. (2018). Sense of connection, identity, and academic success in distance education: Sociologically exploring online learning environments. *Rural Society, 27*(2), 125-142. https://doi.org/10.1080/10371656.2018.1472914

Raza, S. A., Khan, K. A., & Rafi, S. T. (2020). Online education & MOOCs: Teacher self-disclosure in online education and a mediating role of social presence. *South Asian Journal of Management, 14*(1), 142-158. https://doi.org/10.21621/sajms.2020141.08

Richardson, J., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Network, 7*(1), 68-88. https://doi.org/10.24059/olj.v7i1.1864

Seaman, J. E., Allen, I. E., & Seaman, J. (2018). *Grade increase: Tracking distance education in the United States*. Babson Survey Research Group.

Skylar, A. A. (2009). A comparison of asynchronous online text-based lectures and synchronous interactive web conferencing lectures. *Issues in Teacher Education, 18*(2), 69-84.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). University of Chicago Press.

Walker, C. E., & Kelly, E. (2007). Online instruction: Student satisfaction, kudos, and pet peeves. *Quarterly Review of Distance Education, 8*(4), 309.

Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25*(1), 68 – 81. https://doi:10.1006/ceps.1999.1015

Xu, D., & Jaggars, S. (2011). Online and hybrid course enrollment and performance in Washington State community and technical colleges. *CRCC Working Paper*, 31. https://doi.org/10.7916/D8862QJ6

Zhan, Z., & Mei, H. (2013). Academic self-concept and social presence in face-to-face and online learning: Perceptions and effects on students' learning achievement and satisfaction across environments. *Computers & Education, 69*, 131-138. https://doi.org/10.1016/j.compedu.2013.07.002

JTL