INTERNATIONAL ONLINE GRADUATE STUDENTS' PERCEPTIONS OF COI

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Abstract

With the current issue of student retention and attrition as a major aspect of online education, this interpretivist qualitative case study sought to determine whether online facilitators and online student-to-student relationships affect online graduate students' ability to complete their modules and achieve student learning objectives and outcomes (LOO). This study encompassed CoI (Community of Inquiry) and surveyed 54 participants who indicated that the three interdependent presences that form part of CoI (cognitive, social, and teaching) were instrumental in helping them to complete their modules and to achieve student learning objectives and outcomes (LOO). Students' feedback on online facilitators exemplified their cognitive presence in the form of statements linked to triggering events and exploring of ideas. However, there were few statements connected to integration and none linked to resolution. Overall, most of the data collected connected to subsets of teaching and social presences rather than cognitive presence. Additionally, students' feedback on their peers suggests that social presence that fosters group cohesion is the most critical factor to assist in completion of the modules and achieving student LOO. Open communication was also indicated and, to a lesser degree, personal/affective subsets of social presence were evident. The findings of this study suggest that more research is needed on the components of the three presences and their relationship to students' ability to complete the module and achieve student LOO.

Abstract in French

Avec la question actuelle de la rétention et de l'attrition des étudiants comme un aspect majeur de l'éducation en ligne, cette étude de cas qualitative interprétiviste a cherché à déterminer si les facilitateurs en ligne et les relations entre étudiants en ligne affectent la capacité des étudiants diplômés en ligne à terminer leurs modules et à réaliser l'apprentissage des étudiants objectifs et résultats (ORA). Cette étude englobe le CdE (communauté d'enquête) et a interrogé 54 participants qui ont indiqué que les trois présences interdépendantes qui font partie des CdE (cognitives, sociales et pédagogiques) ont contribué à les aider à compléter leurs modules et à atteindre les objectifs et résultats d'apprentissage des élèves (ORA). Les commentaires des étudiants sur les facilitateurs en ligne ont illustré leur présence cognitive sous la forme de déclarations liées au déclenchement d'événements et à l'exploration d'idées. Cependant, il y avait peu de déclarations liées à l'intégration et aucune liée à la résolution. Dans l'ensemble, la plupart des données recueillies concernaient des sous-ensembles de présences pédagogiques et sociales plutôt que la présence cognitive. De plus, les commentaires des étudiants sur leurs pairs suggèrent que la présence sociale qui favorise la cohésion du groupe est le facteur le plus critique pour aider à terminer les modules et à atteindre l'ORA des étudiants. Une communication ouverte était également indiquée et, dans une moindre mesure, des sous-ensembles personnels / affectifs de présence sociale étaient évidents. Les résultats de cette étude suggèrent que davantage de recherches sont nécessaires sur les composantes des trois présences et leur relation avec la capacité des étudiants à terminer le module et à atteindre l'ORA des étudiants.

Keywords: Communities of Inquiry, Online learning, higher education, group cohesion, cognitive presence, social presence, teaching presence

Introduction

More students are opting to study online rather than the traditional face-to-face institution (Duffin, 2020; Lederman, 2019). The increase in online student population fosters the need for skilled facilitators who are able to cater to the individual and collective demands of the growing clientele. In fact, student interaction and community building, according to Canvanaugh (2002), are less satisfying for online students as they are for face-to-face students. Therefore, the online facilitator is expected to inculcate more community-driven skills into the online classroom environment in order to cater to the online clientele.

Additionally, this community-driven energy creates synergy within the online environment and can lead to more online student engagement and satisfaction (Shackelford & Maxwell, 2012). The more engaged students are online the more satisfied they would be with the experience and the less likely drop to out (Stone & Springer, 2019). In order to ensure that such a spirit of community exists, facilitators should possess the three CoI presences, Cognitive presence (CP), Social presence (SP) and Teaching presence (TP) and effectively implement them in the online environment. Garrison (2009) took this a step further and indicated that CoI is used as a framework to "understand and guide the design and delivery of online experiences" (p.352). Furthermore, Wallace (2003) and Tallent-Runnels, Thomas, Cooper, Ahem, Shaw, and Liu (2006) saw the need for more studies to be conducted on teaching presence and immediacy of student engagement within the online environment. Wallace also suggested that future studies should incorporate the effect of online communities of learning and on student learning outcomes (LOO).

With the exponential growth of students within the online environment (Duffin, 2020; Lederman, 2019; Shea & Bidjerano, 2011), there is a need to ensure quality in the teaching/learning process. Garrison (2009) suggested that the focus should be on finding ways to design course content that caters to the three interrelated presences of CoI and how they can be implemented effectively (Garrison, 2009). If practitioners could determine which one of the presences influences online students the most, they would be better prepared to cater to the needs of their diverse clientele. Simultaneously, online educators would have a better understanding of what strategies would be most effective to adopt within the online environment. Moreover, trying to engender a sense of community within the online environment is difficult especially when the online facilitator is unable to determine when students are disengaged and peers are unable to support each other since they might not know when support is needed (Cooper & Scriven, 2017).

Furthermore, Maddrell, Morrison, and Watson (2017) indicated that there is extensive research conducted on the concept of CoI and online learning/teaching. However, "research suggests a lack of empirical evidence to support the framework's central claim that CoI fosters learners' social, teaching, and cognitive presences and leads to deep and meaningful learning outcomes" (p.245). With the aforementioned in mind, this study sought to determine whether online facilitators and online student-to-student relationships affect online graduate students' ability to complete their modules and achieve student learning objectives and outcomes (LOO). In so doing, this study will add to the extant literature on online education and what type of online presences predominate according to participants. The study will also attempt to answer the call made by both Wallace (2003) and Tallent-Runnels et al. (2006). They saw the need for more research to be conducted on teaching presence and immediacy of student engagement within the online environment and their effects on student learning objectives and outcomes (LOO).

Literature Review

Communities of Inquiry

Dewey's (1933) concept of progressive education buttresses the Community of Inquiry (CoI) framework (Wendt & Courduff, 2018). The development of the class experience as a CoI surfaced in the early years of online learning (Garrison, Anderson, & Archer, 2000). The model encompasses the notion of learning community and social interactions within the online environment (Lipman, 2003). Garrison et al. proposed the notion of groups of people being a community focused collectively upon inquiry. Later, Kazanidis, Pellas, Fotaris, and Tsinakosa (2018) described CoI as providing "detailed descriptions of user interactions in collaborative and constructivist-oriented learning processes via online environments" (p.933). This idea encompasses Garrison et al.'s three primary elements of "presence" that affected student learning.

These three key influences are termed *presence* in CoI, for it is the nature and influence of each *presence* that affects students' outcomes. Garrison (2009) suggested that CoI transcends information and progresses to an understanding of the educational experience, which results in the creation of learning communities that foster active learning, collaboration and collectivism. There is a high level of engagement and learning is meaningful. Here, Garrison sees an interplay between the learner and his/her environment fostering meaningful learning and purposeful communication within the online educational experience. He sees the online learner and teacher as both products and producers of the online learning and teaching environment. Furthermore, additional research conducted by Garrison, Cleveland-Innes, and Fung (2010), indicated that there are "hypothesized causal relationships among the presences predicted by the CoI framework" (p.1). Later, research conducted by Cooper and Scriven (2017) found that the CoI model was useful as a "communication and design heuristic" (p.22).

Cognitive Presence (CP)

Cognitive presence (CP) involves the constructivist learning process (Sun & Chen, 2016) and is the "heart" of the CoI (Garrison, 2009; p.353). Cognitive presence is students' use of higher-order thinking skills through the exercise of critical thinking (Kovanovic, Gasevi, Hatal, & Siemens, 2017). Garrison, Anderson, and Archer (2000) posited four phases of the practical inquiry model that online students go through when they engage in critical thinking about the content. These four phases are termed as triggering the event, exploration, integration and resolution (Dewey, 1933). At the triggering stage, the online facilitator provides questions and responses that stimulate discussions and encourage students' participation. The second phase, exploration, occurs after students have understood the information. Then, students are able to interact with the information and their peers so that open communication and exchanges occur.

The third phase, integration, ensures that students understand the content and are capable of applying the knowledge through more critical discussions with their peers. At this point, the online facilitator poses questions that enable students to make sense and apply the knowledge in practical situations. The online facilitator also clarifies any misconceptions that may occur. Majeski, Stove, and Valais (2018) refer to integration as the development of the understanding that is derived from, as well as demonstrated by, recognizing the interconnectivity of the knowledge gathered in this inquiry. Potential solutions are then tested. The final stage, resolution, encourages online students to actually apply what they learnt in practical situations and discuss the same with their peers for knowledge enhancement. However, according to Tran (2011), the reverse occurs where "the resolution stage in a discussion may inhibit others from displaying that stage" (p.1). Tran indicated that messages posted at the resolution stage tend to encourage such responses, as "I agree" which would suggest that the student posting the comment might not have reached the resolution stage when, in fact, he/she may have reached the resolution stage and achieved this level of cognition.

Social Presence (SP)

Vygotsky's (1978) social learning theory, founded on cooperative learning and constructivism, buttresses social presence. According to Wheaton (2017), learning takes place when it is socially constructed on the interpersonal level and internalized at the intrapersonal level. Garrison (2009) indicated that this is the most evolved of the three presences. He furthered, "The original definition was largely a socio-emotional construct and did not reflect the full complexity of this concept in establishing a purposeful educational community" (p.252). He contended that the previous definition did not take into account the overlap between the other two presences. He suggested that the definition of social presence has evolved to encapsulate such issues as trust, inter- and intra-personal relationships, identification with the community in which the learner operates and communicating meaningfully. Later, Cooper and Scriven (2017) suggested that social presence is sequential in nature and starts with the individual student who shares a purpose with other members of the online learning community. This shared purpose continues and follows the developmental stages of team building where the result is an open communication environment that engenders trust (Cooper & Scriven). At this stage, each individual's contribution is valued and fosters collaborative learning (Sun & Chen, 2016).

Social presence pertains to both students' building relationships and the social climate in the online classroom. It is based upon the students' perception of others (classmates, instructor), being present and growing to know one another. The extent to which this occurs denotes development of relationships, and students determine the value of that relationship to them whether positive or negative (Wise, Chang, Duffy, & Del Valle, 2004). Online facilitators help in establishing the proper climate and maintaining it by overseeing the dynamics of relationships occurring among participants.

Subsets of social presence are open communication, group cohesion, and personal and affective. When individual students' social presence is strong, emotional engagement is higher (Cho & Heron, 2015; Park & Yun, 2018). Aspects of this social community, such as a collective spirit and mutual trust, are built through the contributions of individual students (Joksimovic, Gasevic, Kovanovic, Adesope, & Hatala, 2014) mediated by their emotions (Pentaraki & Burkholder, 2017). Wheaton (2017) also supported the idea that the social community promotes open communication whereby peers are encouraged to respond to each other freely, provide feedback and even concurring or differing with each other. However, trust is a process that occurs in stages with open communication and group cohesion as the final stages that lead to achievement of LOO. Garrison (2009) developed the idea of group cohesion and social presence and stated that group cohesion results in a "shared social identity" with a group rather than personal identity that fosters group cohesion (p.352). Bissessar, Black, and Boolaky's (2019) findings echoed that online graduate students felt that "Interactions in discussions which generated a sense of inclusion were important and highly important to them" (p.46).

In their study, Wise et al. (2004) tested the effects of social presence and controlled the levels of social presence cues the instructor used. They concluded that social presence does affect the "learner's interactions and perception of the instructor but has no effect on perceived learning, satisfaction, engagement, or the quality of their final course product" (p.250). They suggested that social presence and student learning share a correlation rather than causal relationship. Later, Hostetter (2013) conducted a two-year, mixed methodology study to determine the relationship between social presence and students' learning outcomes among 121 students. According to Hostetter, "the regression model revealed that students with higher demonstrations of social presence in discussion forum posts had statistically significantly higher ratings on the CAT" (p.77). She furthered that this would suggest that "social presence influences students' outcomes on written assignments" (p.77). Similarly, in a study conducted by Duncan (2018) of online students'

perceptions of academic advising, she found that social presence was the highest perceived presence with teaching, and cognitive presences ranked in that order. Bissessar, Black, and Boolaky (2020), in their study of five graduate online students' PsyCap, found that the students indicated that their relationship with the online instructors determined their level of motivation and demotivation.

Teaching Presence (TP)

Garrison (2009) viewed teaching presence as critical in the development of the CoI model. According to Garrison, Cleveland-Innes, and Fung (2010) and Shea and Bidjerano (2011), the teaching presence is significant in that it determines the level of student satisfaction, community spirit and the learning that takes place. Teaching presence is touted as the glue that holds the other two presences together, creating and sustaining them (Heilporn & Lakhal, 2019; Wendt & Courduff, 2018). Teaching presence encompasses how the online environment is designed, implemented, and how the critical thinking and social processes interact meaningfully to ensure that learning takes place.

CoI assumes that students' social presence predisposes them to an interactive discourse with classmates through which the cognitive process take place and cognition develops through facilitators' teaching presence. In all of this, the social environment of the collective students' actions then reciprocates, building increased social presence and minimizing alienation of some students as it normally occurs in classrooms. The teaching presence occurs through instructional design, boundaries established through policies and administration, online facilitation and one-on-one interactions with each student when grading and providing feedback (Garrison et al., 2000). In essence, teaching presence plays a pivotal role in engendering critical inquiry and meaningful discussions. Consequently, Sun and Chen (2016) linked the cognitive and teaching presences to Dewey's (1933) concept of reflective thinking.

Nevertheless, Cooper and Scriven (2017) cited concerns voiced by Rourke and Kanuka (2009) that the CoI presences do not automatically create the right online learning environment. Additionally, Cooper and Scriven shared Jézégou's (2010) concerns that being part of a virtual environment and interacting virtually does not create a "community" automatically, hence, both "self-direction and voluntary engagement" are necessary in order to determine whether a community exists or not (Cooper & Scriven, 2017; p.25). In the CoI model, the *community* aspect develops as part of the social presence of the students' and class' collective presence (Cooper & Scriven, 2017).

Additionally, Garrison, Anderson, and Archer (2000) suggested three subsets of teaching presence, which are design and organization, facilitating discourse, and direct instruction. In other words, design and organisation imply how the curriculum is designed, what the assessment mechanisms are, the group assignments, and the multimodalities used to deliver the course. The second component, facilitating discourse, refers to how the online facilitator includes all students in meaningful discussions and how he/she monitors the discussions. Both the online facilitator and students share a concomitant responsibility of ensuring that the classroom discussion is positive and attains the LOO. Direct instruction relates to how the online facilitator presents the content, the types of feedback given, the types of questions posed during the discussions, how the online facilitator furthers/scaffolds the discussion and the richness of the content given. According to Wheaton (2017), the higher the level of the discussion, the more engaged the students are and the more active the online facilitator is. This also engenders a higher level of trust and open communication.

Wendt and Courduff (2018) found no significant correlation between 62 undergraduate and graduate international students' achievement based on course grade and teacher presence in an online university in northern, Virgina, USA. However, Wendt and Courduff found a slight

correlation between students' grades and direct instruction. This finding is similar to conclusions drawn by Shea, Li, and Pickett (2006) that direct instruction has a stronger influence on the learning environment as opposed to design and organization and facilitating discourse.

Research Methodology

Qualitative Methodology

This qualitative methodology, couched in the interpretivist paradigm, determined the extent to which 54 graduate students of the University of Liverpool viewed the three CoI presences within their online learning environment. The interpretivist paradigm entails the concept that people learn through constructing their own ideas and understanding what is taking place (Creswell, 2012). Therefore, the interpretivist paradigm was most suitable for the study because the researchers posed questions to students so that they could give their own ideas of their lived experiences of online learning and teaching. Additionally, the researchers tried to understand these experiences in context (Saldaña, 2013) and obtain a deeper understanding of the phenomenon (Creswell, 2012). The researchers acknowledge that through experiences and reflection, participants are co-creators of their own knowledge.

The researchers used qualitative methodology because this study was exploratory in nature and asked open-ended questions about students' perceptions of how their interactions with their online facilitators and peers ensured that they completed the module and obtained the learning outcome (LOO). However, it must be noted that qualitative data collection and analysis can be quite time consuming, however, the data is richer than the more numerical quantitative data analysis. Qualitative methodology allowed the researchers to explore the views of the 54 participants.

Intrinsic, Single Case Study Approach

The approach of qualitative research used was case study because a case study allows researchers to collect data based on a single phenomenon (Yin, 2014). A case study, according to Creswell (2012), provides opportunities for in-depth exploration of issues in context. Yin (2014) defined a case study as "an empirical inquiry that investigates a contemporary phenomenon (the 'case') in-depth and within its real-world context" (p.16). In this instance, the single phenomenon under investigation was online graduate students' at the University of Liverpool perceptions of their interactions with their online facilitators and peers in allowing them to complete the modules and achieve the required student-learning outcome (LOO). Therefore, a case study was used because it allowed the researchers to study the influence of the three interrelated presences within the real-life setting. This was a single intrinsic case study since the intrinsic approach, in particular, permits exploration of the uniqueness of a certain phenomenon rather than a study of its breadth of occurrence (Yin, 2014). The intrinsic method permits questioning the *how* and *why* of student persistence in its organic existence rather than experimental testing of the CoI model by manipulating circumstances. Further questions can be deduced from the results and open opportunities for future studies.

Context

To interpret results, it is important to understand the curriculum design of the UoL online graduate programs. All programs are held in asynchronous mode with facilitators and students interacting at different point in times. Recent upgrade of the learning platform (Blackboard) enabled added face-to-face synchronous interaction through Blackboard Collaborate. However, it was limited in implementation. All materials are centrally designed for consistency throughout the program of study. This includes grading rubrics for each assessment category. The individual subject studied is termed a module. This is necessary to note as much research occurs within the US system that

terms classes as a *course*. When referring to published literature in this report, use of the word *course* is interpreted to be synonymous with our term *module*. Additionally, the use of the word *faculty* is to be interpreted as synonymous with *instructor* or *online facilitator*.

Sample Population

Fifty-four current and former students participated in the study. After conducting a pilot survey, the full survey was promoted to past and present University of Liverpool (UoL) online masters and doctoral students December 2017 through July 2018 via email, LinkedIn and university announcements. Participant demographics reflect 20 alumni and 34 current students of which 23 were females and 31 males. Forty-three participants were aged 31-50, the remaining 11 were comprised of four participants under age 30; six aged 51-60 and one participant over age 60.

Instrument design

The survey instrument comprised of both open- and close-ended questions. The purpose of this current study was to analyse the qualitative questions that were designed to gain contextual information on the CoI experienced by the students. A qualitative approach was chosen to prevent weaknesses that are common in the quantitative approach (surveys) which are frequently used in CoI research (Cooper & Scriven, 2017). The open-ended question avoided restriction of students' thoughts and the researchers' own assumptions and biases. The six questions that all 54 participants responded to were:

1. Which aspects of this program were most beneficial to you and why? (This can include different types of module activities, types of interactions, etc.)
2. How did interaction with your instructors affect your ability to complete each module and achieve its learning outcome?
3. In relation to student-to-student interaction, what effect did the quality and level of student participation have upon your ability to complete each module and achieve its learning outcomes?
4. What were the main strengths/best moments of your studies online?
5. What did you enjoy the most of your online studies and why?
6. What were the worst moments and problems faced?

Data Analysis

Creswell's (2012) description of the six steps in analysing qualitative data was used as a means of determining the main codes. First, the data was organized and prepared for analysis in the form of a spreadsheet. The researchers read the data keeping in mind the question Creswell (2012) posed, "What general ideas are participants saying?" (p.247). The 54 participants' responses to the six questions were copied and pasted into a frequency word count online calculator in order to determine the recurring words. This was subsequently copied and pasted into an MS Excel document and sorted alphabetically. After doing this, the researchers read the recurring vocabulary in context. The next step entailed detailed analysis of the data to form codes (Saldaña, 2013). Creswell (2012) suggested that researchers bracket the data and write a category for the particular chunks of data bracketed. The coding process was inductive where the researchers started with the general data and moved to specific themes. The next step was the generation of codes and themes. The fifth step was to look at the themes and match the themes with the different responses given. The final step was to interpret the data based on the themes. The researchers reviewed the semantic and latent levels (Saldaña, 2013) of themes and determined that the recurring words and phrases mirrored the three aspects of CoI (cognitive, social and teaching).

Trustworthiness

Since there were three researchers involved in the study, there were continuous peer-reviews where all three researchers discussed the interpretations of the data and the themes and indicated whether there was inter-rater reliability vis a vis the themes generated. In order to ensure dependability of the findings, the researchers left the data for two weeks and recoded the data to ensure that there was consistency in the themes. The researchers categorized the data into themes and calculated the inter-class correlation coefficient (ICC) of .837, which is an good ICC reliability value according to Cicchetti (1994). Inter-rater reliability was based on Shrout and Fleiss (1979) convention of the third model of ICC (3.k) where the researchers were the only raters of interest to assess the data. In this instance, the researchers assessed each data set and the reliability was calculated by taking an average of the k raters' measurements.

As the responses were in written form, there was no researcher bias involved in the process that would be expected when conducting an oral interview. However, during the coding process, the researchers ensured that they engaged in bracketing and attempted to be as objective as possible. They also engaged in reflexivity to ensure that they were being as unbiased as possible. Still, based on the feedback given from participants, it would have been more useful to have more in-depth follow-up interviews with an opportunity to probe. For example, Participant 1 stated that there was minimal feedback except in the final module where there was a "high level of faculty support." Within the context of an interview, the interviewer would have asked this participant to explain what is meant by a high level of faculty support. Therefore, this is one of the limitations of this study. Similarly, Participant 2 stated, "It had a positive impact." If this were an interview, the interviewer would have asked for an explanation. Another limitation of the study can be found in trying to clearly delineate the subsets of CoI when, in fact, they are interrelated.

Findings

Themes

This section shows the findings from the 54 responses to questions posed about online learning and teaching. Figure 1 shows a diagram of the aspects of CoI model and the recurring words and phrases associated with each subset of the model. The researchers have linked each subset of the CoI model to the recurring words found in the data based on contextual meaning in which the words occur. For example, the researchers view discussions as tapping into the faculty's cognitive and social presences. The students' online learning experiences encompass the social, cognitive, and teaching presences. Assignments and feedback encapsulate the cognitive and teaching presences. Collaboration, help/support, and flexibility involve both the social and teaching presences. When calculated based on recurring words, and frequency of each word in relation to the themes of CP, SP, and TP, it was found that teaching presence scored the highest and was most frequently referred to semantically and latently (see Figure 1, Tables 1 & 2). This is similar to findings by Heilporn and Lakhal (2019), Wendt and Courduff (2018) who saw teaching presence as creating and sustaining the cognitive and social presences.

Community of Inquiry Framework

Cognitive Presence

- triggering the event;
- exploration;
- integration; and
- resolution.

Social Presence

- open communication;
- group cohesion; and
- personal and affective.

Teaching Presence

- design and organization;
- facilitating discourse; and
- direct instruction.

Key

1= Discussion

2= Online Experiences

3= Collaboration

4= Learning

5= Instruction/Facilitation

6= Assignment

7= Help/Support

8= Feedback

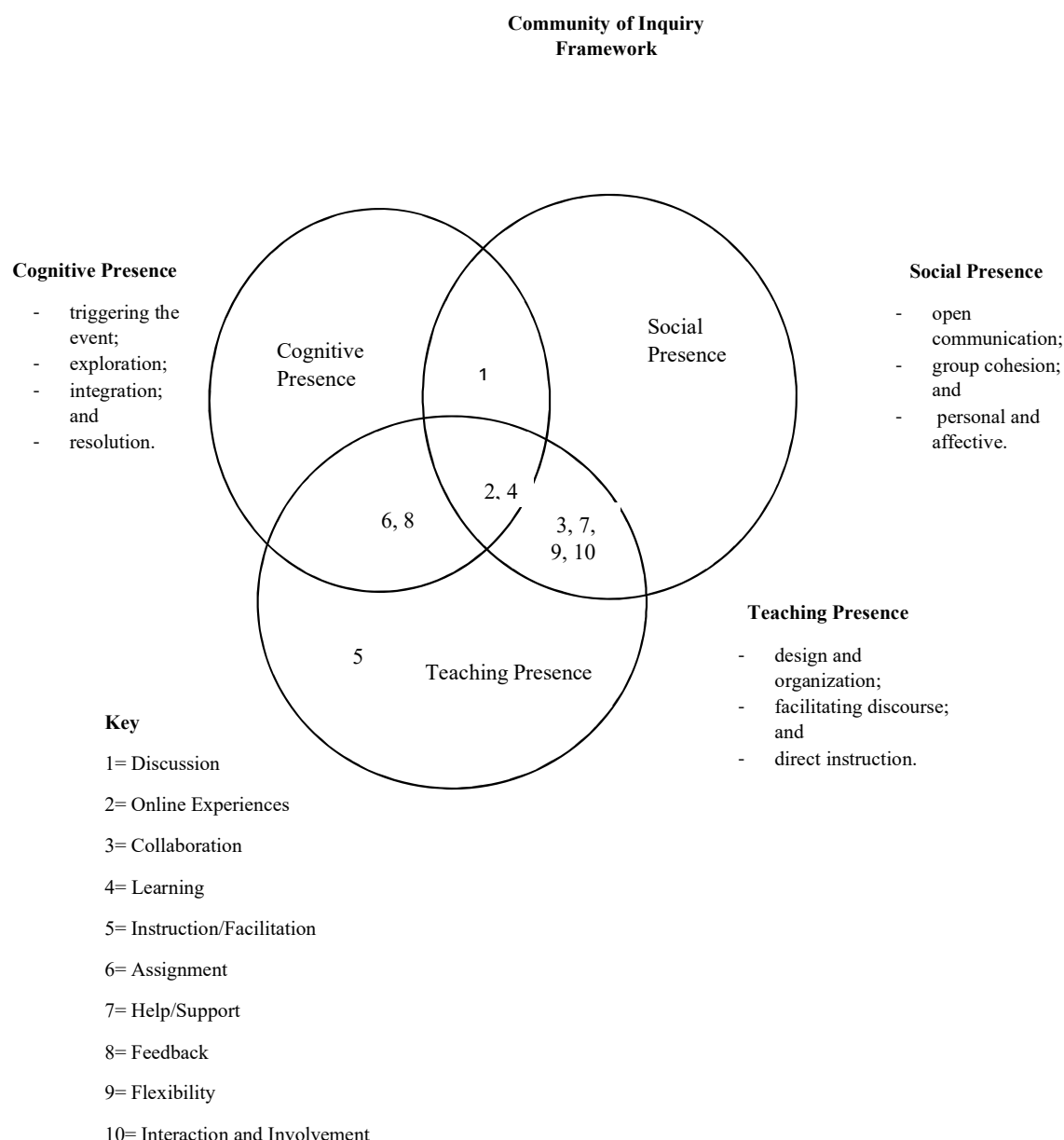9= Flexibility

10= Interaction and Involvement

Figure 1. Subsets of COI and Recurring words

Table 1 shows the frequency count of the recurring words and phrases found in the data gathered as well as the relationship to each presence. Participants mentioned learning and thoughts related to learning 36 times, they mentioned collaboration 34 times, they mentioned instruction/facilitation 35 times. Participants mentioned interaction/involvement 26 times, assignment 26 times, discussion 22 times, help/support 20 times, flexibility 14 times and feedback 10 times.

Table 1: Frequency count of recurring words

Number	Frequency Word	Frequency Word Count	CoI
1	Discussion	22	CP and SP
2	Online Experience	NA	CP, SP, TP
3	Collaboration	34	TP and SP
4	Learning	35	CP, SP, TP
5	Instruction/Facilitation	35	TP
6	Assignment	26	TP and CP
7	Help/Support	20	TP and SP
8	Feedback	10	TP and CP
9	Flexibility	14	TP and SP
10	Interaction and Involvement	26	TP and SP

Table 2 shows the components of the CoI and the semantic and latent levels of thematic analysis of the data. It shows the recurring words and phrases which mirror each subset of CoI.

Table 2: Frequency count of semantic and latent levels of thematic analysis of the data

CoI	Recurring Words and Phrases
Cognitive	"I liked the online discussions;" "I liked the interchange of ideas among colleagues and the feedback from instructors during discussions;" "enhanced my critical thinking;" "classroom discussions because it provided a forum for exchanging experiences and points of view;" "researching on my own and working on individual assignments."
Social	"Communicating with students and lecturers all over the world;" "collaboration brought out the leader in me;" "Collaboration was OK. I did learn a lot from it;" "collaboration forums;" "individuals assignments and collaboration;" "collaboration, where peer-feedback and discussion is actually adding much value to my study;" "I loved the interactions even though online;" "interaction with different level of students."
Teaching	"Feedback from formative assessment;" "Feedback that helped to shape future modules;" "Professor feedback;" "increasing my grade because of feedback;" "high atmosphere of learning and discussion;" "helpful;" "facilitated learning;" "guided very well;" "instructor plays big role to experience "best moments."

Cognitive Presence: Triggering Event

Responses Regarding Faculty's Influence

Participant 35 stated,

> *"Faculty members were engaging throughout the program. They provided stimulating perspectives into their areas of expertise."*

Participant 50 resonated similar sentiments and stated:

> *"Instructor plays big role to experience intensive 'best moments'. One of 5 instructors were very actively worked with students with passion. We developed projects and presented to the class over the BB collaborate and we found this instructor as our leadership guru, and we interact every month."*

Participant 33 also enjoyed the Blackboard Collaboration sessions, she stated,

> *"Blackboard interactions, this enabled cross-fertilization of academic and real-life experiences which aided deeper understanding of topics, subjects and issues."*

Participant 38 explained that she enjoyed,

> *"Great interactions with the class and those instructors who provided valuable feedback to enable me to improve."*

This was similar to Participant 32's view of what she enjoyed about the online learning environment,

> *"The feeling of achievement brought by receiving encouraging feedback and good grades from instructors each week."*

Participant 30

> *"liked the interchange of ideas among colleagues and the feedback from instructors during discussions – some memorable to this day."*

Participant 4 stated

> *"Viewing and learning from the angle and perspective they saw in the material helped in completing the module."*

This statement reflects Participant 5's enjoyment of the online discussions. He explained that there was,

> *"Both way interaction with instructors to bring new notions and different perspectives."*

On the other hand, Participant 41 stated,

> *"During the nine taught modules, I completed, the interaction with Faculty had minimal contribution except in one module, however, during the thesis stage my first supervisor did a very good job in keeping me motivated and on track."*

Participant 13 explained,

> *"Communications sometimes are at different levels and it disturbs, when from the same faculty you got different information."*

Participant 26 stated,

> *"They provided some input, but not a lot. Mostly standardised answers which I could get from the reading material."*

Participant 9 concluded:

> *"There were modules that faculty members were outstanding in terms of focusing on the students' learnings, on the other hand, there were some other members that did not encourage learning at all. Their focus was themselves rather than the learners."*

Responses Regarding Student-to Student Influence

Participant 5 stated:

> *"The different viewpoints from different students and that too from different industries – helped us to think differently of a same situation. In addition, the team exercise (where we had team members from different countries) immensely helped me – on how to use the Time Zone differences to my advantage."*

Participant 44 stated,

> *"Discussions help when classmates are well-prepared and are able to express their ideas clearly, otherwise a waste of time just going through the motions."*

Participant 46 explained,

> *"I learned a lot from my classmates. However, if the class had too many people (say more than 15 or 20) it was difficult keeping up with everyone's posts."*

Participant 29 stated:

> *"In those cases, we colleagues seemed to join together to encourage each other. Sometimes it was difficult to determine what the instructor was expecting, and at times we colleagues resorted to email outside of the Blackboard to decide how to proceed."*

Cognitive Presence: Exploration

Responses Regarding Faculty Influence

Participant 5 stated,

> *"The faculty members' interaction acted like a lamp on a dark path. They guided us in right direction and made us focus on core concepts of the subject."*

Participant 40 added,

> *"Some instructors helped facilitate more in-depth discussions and kept the cohort on track with what we needed to discuss."*

Participant 29 stated that he was grateful because of,

> *"the online ease of learning, my colleagues, most of the instructors, the memories, the help of the support staff when I had a technical problem."*

Participant 23 stated,

> *"My first module was great, my current 2nd module could be better in terms of facilitation of content and instructors."*

Participant 41 stated,

> *"Faculty members were engaging throughout the programme. They provided stimulating perspectives into their areas of expertise."*

Responses Regarding Student-to Student Influence

Participant 7 stated,

> "My fellow classmates challenged the norm of strategy, shared their experiences."

Participant 8 shared,

> "Students from different industries made the discussions richer."

Participant 50 explained,

> "Group projects are very useful here. Grouping with smart students is great opportunity to learn from each other in high-level. But mating with halting students was very useful also to study in deep and very detailed."

Participant 54 explained,

> "The discussion question follow-up responses are the best possibility of sharing different views and asking questions to see the response from various angles."

Participant 54 continued,

> "Students in terms of cultural, prior educational as well as work experience point- of -view have different backgrounds, thus, the views they share were also extremely different, that requires adapting one`s view on a weekly basis."

Integration

Responses Regarding Faculty Influence

Participant 38 stated,

> "Their expert guidance and direction as well as positive feedback gave me the motivation to succeed and persevere. It also broadened my perspective because they always pointed out unique ways of looking at seemingly common business issues."

Participant 30 explained,

> "Again, competent facilitation by tutors guided student interactions towards greater depths of understanding."

Participant 29 stated:

> "I was determined to complete the module regardless of the instructor. Some modules were easier than others to complete, and some seemed to end when I wanted more! Sometimes it seemed like the instructor was just going through the motions and was not really engaged with us."

However, Participant 29 continued,

> "Most of the time, though, the instructors were right on top of the learning and were totally involved."

Participant 52 stated,

> *"Obviously there are certain tutors that one might gravitate to over others. There have been three that I found incredibly helpful and encouraging and others that appeared to provide more canned feedback responses. They were perhaps less personable."*

Resolution

Responses Regarding Faculty Influence

Participant 43 stated,

> *"Faculty support and direction has varied significantly for each module. Interaction with my DDP tutor was extremely valuable, helping me to crystallize my thoughts, but it was a pity that they were only with me for two terms."*

Participant 33 stated,

> *"Encouraging, when the faculty member is detailed in his/her approach to impacting knowledge. Discouraging in instances when faculty members do not provide sufficient guidance and socialised environment for learning."*

Social Presence

Social presence was one of the recurring presences exemplified in participants' responses. Participants' especially discussed feedback from their peers as being critical. This aspect points to the open communication and group cohesion within this presence. Most students indicated that they were motivated and encouraged to continue by their peers.

Open Communication

Responses Regarding Faculty's Influence

Participant 3 stated that she enjoyed the

> *"Extremely satisfying support structures and calibre of instructors. Their friendly approach and methods of deployment in the classroom."*

On the other hand, Participant 37 stated,

> *"Some were very responsive and interesting while others are not."*

Participant 51 stated,

> *"When faculty members cared and were engaged, it was motivating."*

Participant 18 stated:

> *"I enjoyed the international feel and interaction – everyone was so professional and courteous. There was none of the issues sometime present in on-campus studies around gaps in the day between lectures etc. as the classroom is always open.2*

Participant 30 stated:

> *"I found it gratifying when some of us were able to connect on a more personal level – a problem with a wife's business where I was able to offer a meaningful suggestion that worked. A colleague*

who was having trouble adapting to the format and I was able to help; the stories of gunmen arriving at a colleague's office and how the colleague handled the situation."

Responses Regarding Student-to Student Influence

Participant 1 explained about his/her colleagues

"Viewing and learning from the angle and perspective they saw in the material."

Participant 34 explained:

"Each module was a lot of work. However, I think this also helped me to stay engaged with my peers and learn from them. The amount of student participation had the effect of keeping me engaged and challenging me to do more reading and more exploration of the literature and research. I wanted to keep up with my peers and I wanted to learn what they knew."

Participant 51 explained,

"I found learning to use IT tools from fellow students has been beneficial. We have started a WhatsApp group and share resources almost daily now."

Participant 49 stated:

"Best moments are the interactions with my peers and instructors where we are all learning something amazing from each other and the penny drops for us all. When the group is cohesive and cogent, it is simply divine and so satisfying to be a part of learning."

Group Cohesion

Responses Regarding Student-to Student Influence

Participant 53 shared,

"Through collaboration with my classmates as well as with my instructor, I believe I get the required feedback either direct or indirect. Thus, my communication skills as well as developing critical thinking."

Participant 1 stated,

"Encouragement by peers increased motivation."

On the other hand, Participant 10 explained:

"I found interaction with other students both helpful and frustrating depending on the level and type of interaction. For team-based activities, it became clear who were the good classmates to work with, and who was likely to provide a better outcome and put more effort into the project delivery."

Participant 12 explained:

"This was a very demanding but one of the most enjoyable components of the course was the student interaction. Towards the end of cut off time, it was difficult to interact with students of different time lines. Studying to early hours of the morning helped and sometimes logging in at 4 am helped as there was almost always students online."

Participant 29 stated:

> "The amount of student participation was a huge factor in the learning. The students made the discussions enjoyable and challenging. The instructor did also, but just a one-on-one with an instructor would not have provided the breadth of the thought process."

Participant 31 explained:

> "Again, this depends on the module and the task. Some group members were good at discussions and had a lot to offer, some were not and some were very critical. When students don't feel free to speak about what they got from the material it makes it difficult to interact."

Participant 32 explained,

> "Interacting with students that were ahead in terms of number of modules accomplished was very helpful in motivating me to the finish line. Peer interaction with other students contributed averagely in my finishing the program."

Participant 38 stated,

> "The students' efforts in research for the quality collaboration provided the insights; I did the interaction with the class to meet or exceed the collaboration requirements."

Conversely, Participant 31 continued,

> "In some modules I found there was too much expected interaction."

Participant 37 also agreed,

> "I did not perceive the collaboration forum as an effective learning tool."

Participant 26 stated:

> "It held me up – all the collaborations are a giant waste of time to be honest. People in different time zones with different levels of knowledge and different backgrounds are forced to interact on something they could learn on their own in half of the time."

Participant 36 complained,

> "Some student interaction was frustrating as they clearly did not have the English writing skills to be in a normal MBA program. Otherwise interactions were positive if not bland and sterile at times."

Personal/Affective

Responses Regarding Student-to Student Influence

Participant 39 stated,

> "In the beginning, interacting with other students made me lose confidence. Now, I have realised we all have different strengths and perspectives."

Participant 43 shared,

> *"Collaboration brought out the leader in me, and as a leader of a task, the last thing on your mind is to let your followers down. This position motivated me in some ways to achieve the learning outcomes."*

However, whilst Participant 43 saw herself as an emergent leader, Participant 44 explained,

> *"I did not learn much from the student-to-student interaction. I was expecting more of a practitioner-practitioner type of interaction, albeit in an academic set up and from an academic perspective."*

Participant 11 stated that the strength of the online environment was

> *"Collaboration, where peer feedback and discussion is actually adding much value in my study."*

Congruently, Participant 35 indicated that the strength of the online environment was

> *"Collaboration. Seeing people have the same challenges as you do and seeing how they are resolved from people all over the world."*

Teaching Presence: Design and Organization

Responses Regarding Faculty's Influence

Participant 30 was more interested in the design and organization of the modules and stated,

> *"The instructors who have the effective leadership can lead the whole class with high atmosphere in learning and discussions. As well, their feedback and comments can guide the students to make improvements to achieve the goal."*

Participant 30 continued,

> *"However, the instructors who are not open-minded and do not have so much experience could not motivate the students to keep the stamina."*

Participant 30 continued:

> *"I found the need to force my brain to think beyond what I thought I was capable of doing was extremely beneficial. And, the constant reminders during class to adhere to the academic research that was part of the module/reading instead of just opinion. And, the referencing – even to this day when I read an article, I look for the references and think about what is opinion and what is based on research."*

Participant 37 stated,

> *"I enjoyed reading the formative feedback. It reflected my weaknesses and strengths."*

However, Participant 37 continued,

> *"Formative feedback. I would have appreciated more detailed and specific feedback in some modules."*

Participant 49 stated,

> *"Main strengths are having instructors who are fully engaged in your process who want you to succeed."*

Facilitating Discourse

Responses Regarding Faculty's Influence

Participant 5 stated,

> *"I enjoyed learning from the instructors and classmates in the classroom. The various views and angle approaches to various Discussion Questions challenge were most enjoyable."*

Participant 11 explained when discussing faculty,

> *"Most interacted and guided very well, which helped to drive performance."*

Participant 53 stated:

> *"I have never really felt I was too competitive, but I do feel the need to keep pace with and that is an excellent motivator. I see my students posting and engaging and I know I don't want to be the last one to post or feel like they gave me more than I gave them. I want to be on par with my class and be as helpful as I can be."*

Participant 30 stated,

> *"I loved the feedback a few instructors gave me to some of my project writings. One instructor said that a paper like mine was the reason he continued to teach. I was on cloud 9 when I read that comment."*

Direct Instruction

Responses Regarding Faculty's Influence

Within the teaching presences, feedback was one of the recurring words with participants positively indicating that feedback helped them. Participant 25 stated:

> *"Faculty members are instrumental in helping me push myself (to learn) and supporting me to stay engaged. Their feedback has helped me feel smart enough to complete a doctorate program. Their patience has provided me space to challenge myself to understand new theories and concepts that have taken time to understand."*

However, Participant 30 added,

> *"I would have appreciated more detailed and specific feedback in some modules."*

Similarly, Participant 41 wanted more direct instruction,

> *"video chatting, messaging is great advantage, but unfortunately not all faculty members are using these opportunities to communicate students."*

Discussions

From the findings discussed, the researchers note that participants' responses connected to the teaching and social presences rather than the cognitive presence (see Figure 1, Tables 1 & 2). Heilporn and Lakhal (2019) corroborated that while the cognitive presence "represents the overarching goal of a collaborative meaningful educational experience, cognitive presence is mediated by teaching and social presences" (p.2). However, Tran (2011) found that cognitive presence is cultivated over time and is sometimes difficult to read especially during online discussions and at the resolution stage where students may be inhibited and say "I concur" instead of giving critical justifications for agreeing. Subsets of teaching, social and cognitive presences assisted participants in completing their modules and achieving student-learning outcomes (LOO).

Cooper and Scriven (2017) found social presence seems to support students in "overcoming feelings of isolation" (p.25) although there was no evidence that it facilitated cognitive presence. Bissessar et al. (2020) also found that online students credited their motivation and demotivation with the online instructor's feedback and communication (subsets of social presence). Moreover, Bissessar et al. (2019) concluded that online graduate students' relatedness and sense of belonging affected their motivation to persevere. This highlights the importance of the social learning theory which suggests that students learn individually first and then share this knowledge with their peers (Wheaton, 2017). The findings of this study support the conclusion by Cooper and Scriven (2017) since the 80% of the participants indicated that they were especially happy with the group cohesion experienced with their peers. This aligns with the findings by Duncan (2018) that social presence plays a critical role in students' completion of their modules. However, Cooper and Scriven's and Duncan 's findings indicate that social presence is most important followed by teaching and cognitive as opposed to this study's findings where teaching is most important followed by social and cognitive presences (see Figure 1, Tables 1& 2).

Wheaton (2017) found that when online students complete activities that foster group cohesion a sense of community develops and there is cooperative learning. The modules at the University of Liverpool lend themselves to group activities that did foster group cohesion and strong social presence among the group members as evidenced in the participants' responses. This is also in agreement with Joksimovic et al.'s (2014) findings that collaborative learning experiences within the online environment allow for enriched educational experiences. This current study found that group cohesion and social presence student-to-student had a more significant influence on students' ability to complete the module and achieve student-learning outcomes (LOO). Additionally, Maddrell et al. (2017) found that there was no relationship between 51 graduate students' perception of their participation in five distance education courses and the three components of CoI. This suggests that more research is needed on specific aspects of CoI especially those related to the subsets of the three presences and students' satisfaction.

Based on the conclusions drawn, the researchers recommend that universities continue to provide opportunities for students to work in groups as well as opportunities for students and online facilitators to capitalize on their social presence. For example, Anderson (2018) suggested some best practices for improving social presence within the online environment are "ice-breaker activities including self or pair based introductions, opportunities to talk about personal contexts, session check-ins and digital story-telling" (p.3). These strategies would help with open communication, group cohesion, and personal and affective.

Participants mentioned statements related to online facilitators' cognitive presence in the form of triggering event, exploration and integration as important. Therefore, the researchers recommend that online instructors implement robust question and answer techniques, interweaving, and other assignments that allow for the inclusion of higher order thinking skills. This will also allow an

opportunity to appreciate how the assignments and in-class discussions foster more application and synthesis of concepts and ideas.

Participants' responses, when coded were most pertinent to the teaching presence, which, according to Heilporn and Lakhal, (2019) and Wendt and Courduff (2018), is the presence that supports and maintains the other two presences. The findings from this study support Wendt and Courduff's and Heilporn and Lakhal's conclusions that teaching presence is the most important presence. More specifically, facilitating discourse and direct instruction were the most significant aspects of the teaching presence found in this study based on the recurring words and ideas.

Conclusions and Implications for Future Research

As students continue to opt for more online programs over face-to-face classes, the need to understand the phenomenon of how the three presences and their subsets affect students' ability to complete the modules and achieve student learning outcomes (LOO) is critical. This interpretivist qualitative case study sought to determine whether online facilitators and online student-to-student relationships affect online graduate students' ability to complete their modules and achieve student learning objectives and outcomes (LOO). This study surveyed 54 participants who, based on their responses to questions posed, indicated that the three interdependent presences that form part of CoI (cognitive, social, and teaching) were instrumental in helping them to complete their modules and achieve student learning objectives and outcomes (LOO).

Students' feedback on online facilitators exemplified their cognitive presence in the form of statements linked to triggering events and exploring of ideas. However, there were few statements connected to integration and none linked to resolution. Overall, most of the data connected to subsets of teaching and social presences rather than cognitive presence. Additionally, students' feedback on their peers suggests that social presence fostering group cohesion is the most critical factor to assist in completion of the modules and achieving student LOO. Open communication was also mentioned and, to a lesser degree, personal/affective subsets of social presence were present.

As students continue to opt for more online programs over face-to-face classes, there is a critical need to understand the phenomenon of how the three presences and their subsets affect students' ability to complete the modules and achieve student-learning outcomes (LOO). The present popularity of online teaching and learning at all levels because of the pandemic fosters the need for more research on the three presences and their relationship with students' learning outcomes (LOO). The findings of this study suggest that more research is needed on the components of the three presences and their relationship to students' ability to complete the module and achieve student LOO. More research is needed both qualitatively and quantitatively to indicate whether or not a statistical relationship exists among them and how their themes interrelate. There is also a need to have larger sample sizes from one population in order to compare them with populations in different countries so that emergent data could yield intriguing results.

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