



# Dissecting Students' Distance Learning Experiences with Community of Inquiry (COI) Framework The Case of EFL Classroom

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## ABSTRACT

Extended pandemic has mounted concern about the quality of instruction as engagement among course participants, teacher and content remains a problem albeit the use of technology. Disruption in education characterized by techno-mediated instruction has changed the paradigm on evaluating the effectiveness of teaching and learning process. This study was aimed at evaluating online instruction effectiveness by examining course participants' satisfaction of their online learning experience using Community of Inquiry Framework (COI) instrument. The research made use of mixed method design employing Likert-scale questionnaires, participatory virtual classroom observation, and WhatsApp and online chat. 23 voluntary samples out of 32 population of course participants took part in the study. Survey data were analyzed quantitatively to find out mean and standard deviation, meanwhile, qualitative data were analyzed with the help of qualitative software analysis NVivo 12 Plus. The findings indicated that the course participants rated their satisfaction of learning experience varied from "low" to "high" with a strong tendency toward "moderate", and COI instrument was a valid instrument to evaluate the effectiveness of an online learning course.

**Keywords:** *Community of inquiry framework, Online learning effectiveness, Techno-mediated instruction, Virtual classroom observation.*

## 1. INTRODUCTION

Pandemics have opened the eyes of education practitioners that interaction and togetherness in learning are of prime importance. Remote instruction poses challenges for both learners and instructors, one of which, is the separation of the teacher or instructor from the students and the students from each other. This separation often results in lack of retention and the feeling of isolation particularly among students which turn out to be the main source of students' dissatisfaction in online learning environment (Palloff & Pratt, 2007).

Technology has created novel and prevailing opportunities for online teaching and learning. However, the application of technology was underutilized in Indonesian education contexts until the pandemic forced students and teachers to use it. Pandemic has forced teachers to get acquainted so closely with technology and is currently inseparable from their day-to-day teaching routines.

Despite massive use of online instruction, questions regarding the effectiveness of learning come to the fore, especially by researchers (Allen & Seaman, 2015). Hazaymeh (2021) posited that instructors of distance learning should be aware of effectiveness of digital technologies due to technical problems and absence of physical interaction. Alomyan (2021) also reported that students suffer from anxiety, boredom, and nervousness. Concerned with finding the factors contributing to quality and successful online learning experiences, the researcher examined the effectiveness of remote instruction by measuring students' satisfaction using Community of Inquiry (COI) framework instrument developed by Arbaugh, Cleveland-Innes, Diaz, Garrison, Ice, Richardson, & Swan, (2008). The instrument was made up into survey questionnaires to examine students' perceptions of cognitive, social, and teaching presences. The researcher also employed virtual class observation

and WA chat to augment the survey data and confirm findings from survey and class observation. By understanding what contributes to the success of the online learning experience from student perceptions, educators, education designers and education institutions can develop and design online courses that make the most of learning, engagement and learning potential. The investigation was guided by the following research questions:

1. How do course participants perceive satisfaction with their learning experience?
2. How is the validity of Is COI framework instrument to evaluate the effectiveness of online courses through course participants' satisfaction rate?

### ***1.1. Community of Inquiry (COI) Framework in A Nutshell***

Community of Inquiry (COI) is a theoretical framework proposed by Garrison, Anderson, and Archer (2000) that provides a process of developing three interdependent elements: social, cognitive, and teaching presences to create a profound and meaningful learning experience.

The three presences are multi-dimensional elements. As seen the constituting categories are used to operationalize each of the presences. Cognitive presence characterized in COI constitutes four phases: triggering event, exploration, integration, and resolution; affective expression, open communication, and group cohesion are used to characterize social presence; and design, facilitation, and direct instruction are used to characterize teaching presence (Table 1).

This framework addresses the social and cognitive nature of students' presence in knowledge construction (Cheung, Brown, Yu, & Siu, 2020). Cognitive Presence is defined as the student's ability to construct meaning and develop understanding; social presence is a student's ability to present himself as a "real person" with distinctive characteristics; and teacher presence is the design and facilitation of cognitive and social presences to achieve learning outcomes. The COI framework hypothesizes that effective distance learning is the result of a fully structured and sustained interaction between the educational material and the student and teacher (Swan, 2003). It has proven to be a useful theoretical framework and tool for researching and designing online learning experiences (Garrison & Arbaugh, 2007).

Social presence (SP) is "the ability of participants in a community of inquiry to project themselves socially and emotionally, as 'real' people through the medium of communication being used" (Garrison et al., 2000). The three components of social presence include affective expression, open communication, and group cohesion. The importance of SP in online courses has been noted in

**Table 1.** Operational definitions of the presences (Akyol & Garrison, 2008)

Elements	Categories	Indicators	
<b>Social Presence</b>	Open Communication	Learning Climate/Risk-Free	
	Group Cohesion	Expression Group	
	Personal Affective	Identity/Collaboration	
	Triggering Event	Sense of Puzzlement	
	Exploration	Information Exchange	
<b>Cognitive Presence</b>	Integration	Connecting Ideas	
	Resolution	Applying New Ideas	
	<b>Teaching Presence</b>	Design & Organization	Setting Curriculum & Methods
		Facilitating Discourse	Shaping Constructive Exchange
Direct Instruction		Focusing and Resolving Issues	

the literature. SP develops a sense of community among students (Alman, Frey & Tomer, 2012; Sung & Mayer, 2012) impacts student engagement (Cobb, 2011; Zhang, 2010), student satisfaction (Bulu, 2012; Cobb, 2011), student participation and motivation (Jorge, 2010; Richardson, Koehler, Besser, Caskurlu, Lim & Mueller, 2015), and retention rates in online learning (Boston, Diaz, Gibson, Ice, Richardson & Swan, 2009; Richardson et al., 2015). Even though the positive aspects of SP are documented in the literature, high dropout rates (Levy, 2007; Xu & Jaggars, 2011) are a big challenge that online courses present. Reasons such as isolation from instructors (Cho, Shen & Laffey, 2010), decreased social interaction (Lee & Choi, 2011), and feelings of isolation and disconnectedness (Kanuka & Jugdev, 2006) contribute to these challenges. On the other hand, an online community that fosters a sense of belonging and interaction among students has been shown to help them overcome these obstacles (Liu, Magjuka, Bonk & Lee, 2007). Designing more communication and collaborative activities with frequent and quality interactions between instructors and students can also address lack of SP (Richardson et al. 2015). Furthermore, by incorporating activities that focus on "building trust online, providing 'hand-holding' technical support, and promoting informal relationships, instructors can help provide greater interactivity within the online

Teaching presence (TP) is defined as the design, facilitation, and direction of [student] cognitive and social presences for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Anderson, Liam, Garrison & Archer, 2001). TP comprises of three distinct elements: instructional

design and organization, discourse facilitation, and direct instructional activities. Garrison & Cleveland-Innes (2005) describe TP as the "binding element" that brings together an online learning community and allows for the cognitive and social activities necessary for successful online learning. The three components of teaching presence reveal specific instructional guidelines for remote teachers.

TP begins prior to any interactions with the students through the design and organization for an online course. Decision regarding course objectives, schedules, the syllabi, reflects the teacher's role as the main designer and administrator of students' learning experience (Anderson et al., 2001). Teachers also play a crucial role in facilitating discourse among students. When the students can actively engage in collaborative dialogs with other peers or students through discussions that personalize, challenge, and expand on the topics covered in class can result in the improvement of learning outcomes. Finally, TP in online learning environment depends on the effective and frequent use of direct instruction. Teachers involve in direct instruction when exercising scholarly leadership, through coherent content presentation and the injection of internal resources/viewpoints, and conducting evaluative activities, such as assessing students' comprehension or giving feedback (Garrison & Cleveland-Innes, 2005). It is important to notice that teacher-student interaction does not necessitate synchronicity. Bernard, et al., (2004) proves that remote learning effective asynchronous mode often result in better students' learning outcome than those requiring frequent synchronous interactions.

## 1.2. Community of Inquiry and Students' Satisfaction

The disruption of teaching practices results in teachers' difficulty in adjusting and connecting their existing pedagogy with technology (Sulisworo, 2013). This difficulty was reverberated in (Purwandari, Junus & Santoso, 2022) and recommended teachers to be equipped with online learning pedagogical competence. Sampson, Leonard, Ballenger, and Coleman (2010) posit that students' satisfaction and outcomes are good indicators to evaluate the quality and effectiveness of online programs. Another crucial component for quality online education is learner engagement that refers to the effort the learner makes to enhance his or her psychological commitment to stay engaged in the learning process, to acquire knowledge and build his or her critical thinking (Dixson, 2015). Learner satisfaction and experiences are crucial contributing factors to the quality and acceptance of e-learning in higher education institutions (Virtanen, Kääriäinen, Liikanen, & Haavisto, 2017). An online learning community is very important as it serves social needs as well as promoting student satisfaction and learning through community involvement (Palloff & Pratt,

**Table 2.** Survey instrument

<b>Teaching Presence (TP)</b>	
1	The instructor clearly communicated important course topics.
2	The instructor clearly communicated important course goals
3	The instructor provided clear instructions to participate in course learning activities.
4	The instructor clearly communicated important due dates frames for learning activities.
5	The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.
6	The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
7	The instructor helped to keep participants engaged and participate in productive dialogue.
8	The instructor helped keep the participants on task in a way that helped me to learn.
9	The instructor encouraged course participants to explore new concepts in this course.
10	Instructor reinforced the development of a sense of community among participants.
11	The instructor helped to focus discussion on relevant issues in that helped me to learn.
12	The instructor provided feedback that helped me understand my strengths and weaknesses relative to the course's goals and objectives.
13	The instructor provided feedback in a timely fashion.
<b>Social Presence</b>	
14	Getting to know other course participants gave me a sense of belonging in the course.
15	I was able to form distinct impressions of some course participants.
16	Online or web-based communication is excellent medium for social interaction.
17	I felt comfortable conversing through the online medium.
18	I felt comfortable participating in the course discussions.
19	I felt comfortable interacting with other course participants.
20	I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.
21	I felt that my point of view was acknowledged by other course participants.
22	Online discussions help me to develop a sense of collaboration.
<b>Cognitive Presence</b>	
23	Problems posed increased my interest in course issues.
24	Course activities piqued my curiosity.
25	I felt motivated to explore content related questions.
26	I utilized a variety of information sources to explore problems posed in this course.
27	Brainstorming and finding relevant information helped me resolve content related questions.
28	Online discussions were valuable in helping me appreciate different perspectives.
29	Combining new information helped me answer questions raised in course activities.
30	Learning activities helped me construct explanations/solutions.
31	Reflection on course content and discussions helped me understand fundamental concepts in this class.
32	I can describe ways to test and apply the knowledge created in this course.
33	33. I have developed solutions to course problems that can be applied in practice.
34	I can apply the knowledge created in this course to my work or other non-class related activities

2005). Thus, the reason for using a community of inquiry is that the framework is closely associated with the level of students' perceived learning and satisfaction (Eom, Arbaugh, Akyol, & Garrison, 2011)

## 2. METHODOLOGY

The aim of the research was to evaluate distant learning course effectiveness by assessing satisfaction rate perceived by course participants. The study employed mixed method using COI framework instrument designed by Arbaugh et al. (2008) constituting three aspects presences—teaching, social, and cognitive presences. The instrument internal validity was calculated online (<https://www.datatab.net/statistics-calculator/reliability-analysis>) and found Cronbach's alpha 0.93 for TP, 0.90 for SP, and 0.92. The statistics shows that the instrument has excellent internal consistency. The population of the study was 32 undergraduate students (21 female and 11 male) attending a fully online course. Survey was distributed at 15th session of a-16 session long planned course. The study also used class observation and WhatsApp-mediated chat to augment and confirm the survey data. It was a participatory study in which the researcher attended the class doing the observation. The researcher kept track of important information from every stage of the course sessions.

As Akyol and Garrison (2011) indicate, the strength of the CoI framework is its emphasis on collaborative constructivist approaches for designing online learning environments to achieve deep and meaningful learning. COI-based instrument had been used effectively to examine learning experiences and to compare different premises in many contexts (Stenbom, 2018). The survey instrument comprises of 34 statements representing aspects of the three presences examined--13 TP, 9 SP, and 12 CP (Table 2).

The researcher participated in the class's virtual session for class observation. During the class observation, the researcher kept careful track class activities, participant-participant interaction, participant-instructor interaction, and all other important information. At the end of the semester, zoom video recordings were analyzed to augment and confirm the data uncovered during synchronous class observation. Observation checklist adopting the COI-based instrument was also used for easier analysis.

The researcher also used WhatsApp text messaging to chat with the course participants regarding course activities both synchronous and asynchronous. The chat was also to cross-check and confirm the data gathered from survey and virtual class observation.

## 3. RESULTS AND DISCUSSION

Data analysis showed students' perception of their online learning experience. In general, they perceived their experience positively in the three presences, teaching, cognitive and social presence with dominant moderate rates. In addition, the gap in students' view in assessing aspects of the learning experience was not wide which was indicated by a low standard deviation (SD) ranging from 0.5 to 1.3 of all aspects tested. Rate in TP, CP, and SP varied from low to moderate with tendency toward moderate. Of the 34 items tested 22 out of which were moderate, 8 high, and 4 low. This data obviously showed that students were highly and lowly satisfied with some aspects of learning experiences but moderately satisfied with the most.

### 3.1. Teaching Presence

In TP (see figure 1), the students were highly satisfied with three aspects of their learning experiences. First, of all, they were satisfied with clarity of instructions on how to participate in the course learning activities (TP3). Prior commencement of the course, the students had already got information what the course was all about through syllabus or course unit.

Then at the introductory session, the students were confirmed with teachers' overview of the course and rules for active participation. The second highly positive learning experience was the facilitation that helps students to keep learning (TP8). The instructor provided guidance to search for sources of learning so the students can save time and focus to those relevant. At last, instructor encourages students to explore new concepts (TP9). The instructor showed the possibility of inventing or learning new concepts relevant to what being learned. Students' high satisfaction to the three aspects of TP was confirmed through class observation and WA chats with students.

At the beginning of the semester, in the first session, the instructor consolidated the class in order that the students could attend the class well. Through introductory session, the instructor managed to facilitate the students to get to know each other (student-student and students-instructor) to promote engagement. The class began a few minutes ahead of time in the class schedule. The instructor

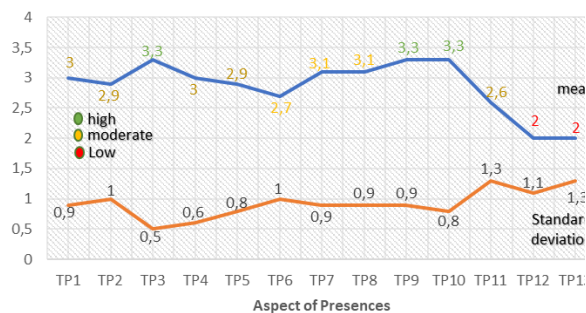


Figure 1 Teaching presence.

called the students one by one and contacted the students did not show up on Zoom's screen through WA or asked the class chairman to contact the students. The instructor asked all students to activate their camera and learned individual faces and made sure they all paid attention. The instructor greeted and welcomed all students to the course.

Well consolidated, the students were invited to discuss Program Expected Learning Outcome (PELO). As discussing PELO, the instructor and course participants discussed students' conducts attending the class, and students' profile relevant to the PELO. Students paid careful attention and were actively involved in the discussion talking about and interpreting Program Expected Learning Outcome. The students were then given 15 minutes to learn RPS (syllabus) or course speck and invited them to put forward their understanding of the syllabus. The students were then asked to elaborate or clarify their views. Prior to the conclusion of the session, students were told what activities to do in the upcoming session, that is SLOPE (searching, learning, organizing, presenting, exploring). The class was concluded with wrap up by inviting few students to give conclusion on what they had learned in that day's session.

Through the class observation above, it clearly indicated that the instructor began the semester by introduction to get to know the participants involved and trust-building activities to build trust and confidence what knowledge and skills they expected to acquire. The first session's class activities are in line with TP and SP aspects suggested in COI framework of distance learning (Arbaugh et al., 2008).

The course was prepared long before its commencement in the form course outline together with course policy and rules of conduct to abide for in the course. Through course outline, students were provided with clear learning goals. The lecturer shared course overview by discussing university's core values, Program Expected Learning Outcomes (PELO), and Course Expected Learning Outcomes. In other words, the students were provided with very clear learning goals.

At the beginning of the course, the lecturer held initial synchronous meeting to officially welcome the students and introduce the lecturer and the course. The lecturer set expectation for students' participation and activity in the course and ensured the use of platform to complete and submit assignments. Even though, it was the introductory session, it could be clearly seen that the lecturer provides engaging, relevant, and appropriate active learning opportunities.

Students were moderately satisfied with most aspects of TPs that provided rooms for improvement to reach highest. The first three aspects perceived this way were instructor clearly communicate important course topics (TP1), course goals (TP2), and important due dates/time frames for learning activities (TP4). When the sessions

were mostly asynchronous, weekly topics, learning goals, and important due dates/time frames for learning activities should have been communicated more often through remainders or other means so they are clear to all students as to what learn or plan for their learning. Though WA chats, students informed that they were informed what topics and learning activities to pursue before the class or after the class was over for upcoming learning activities. This is in line with what an instructor must do in distant learning, but the students want these be informed more often. Kung-Ming and Khoon-Seng (2009) assert that asynchronous communication provides the advantage of flexibility, since learners can use the system whenever they want and have more time to ponder before making a point of discussion. Students can visit the course site at a time that is convenient for them, which is also useful for courses that operate across multiple time zones. Asynchronous interaction can also provide students with anonymity and is less scary than face-to-face interaction

To foster students' satisfaction in online learning is that the instructor can identify areas of agreement and disagreement and help them learn (TP5) and guide them toward understanding and help them clarify thinking (TP6). As the sessions were mostly held asynchronously, discussion was also rare. However, discussion can be done asynchronously on platform used (LMS). When the instructor can facilitate productive engaging discussion, the students can learn better. This facilitation is also relevant with TP7 that requires the instructor helped to keep course participants engaged and participating in productive dialogue. Finally, the instructor must help the students focus discussion on several issues in a way that can help them learn.

Feedback was the weakest aspect of students' learning experience. The two aspects of feedback examined, TP12, feedback that helps students identify strengths and weaknesses of the course's goals and objectives, and TP13 that concerns with instructor's punctuality in providing it, both gained mean score 2.00, the lowest out of 34 aspects observed. The two aspects were low since providing feedback was rare and untimely. This was possibly because of too much workload the instructor must handle.

In an online learning environment, meaningful online feedback is essential because it gives constructive academic input that students can use during course work reflection. Positive instructor feedback inspires and motivates students to participate actively. As a result, instructors who provide positive feedback to online learners' aid in the processing of new ideas and information while also increasing self-efficacy (Crisp & Bonk, 2018). Furthermore, meaningful feedback allows the online student to evaluate their progress and identify areas where they may improve. Instructor feedback helps students accomplish course objectives and has a significant impact on overall learner success. Learner self-reflection is helpful in defining academic goals,

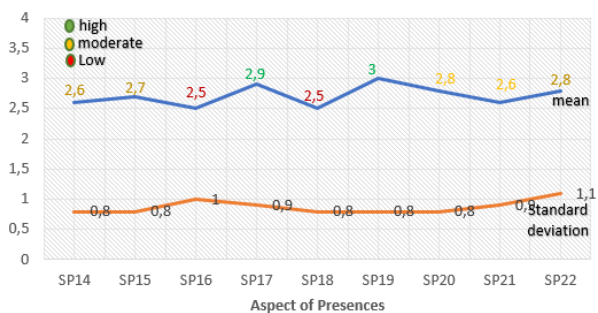


Figure 2 Social presence.

performance results, and gaining a better understanding of course objectives.

### 3.2. Social Presence

The overall social presence learning experience rating is 2.72 with SD 0.87 lower than that of TP (2.86) with SD 0.87 but higher than CP (2.67) with SD 0.79. This statistic means the overall students' satisfaction in SP is relatively the same as the other two presences examined. SP consists of 9 aspects with rating categories fall into high (TP17 and 19), moderate (TP14, 15, 20, 21, 22), or the dominant, and low, TP 16 and 18. The standard deviation ranges from 0.8-1.1 showing that respondents' assessments on these aspects were not nearly as diverse. Figure 2 shows the rate of students' satisfaction in SP.

The "high" rated aspects regarding with students' feeling of comfort in conversing (SP17) and interacting (SP19) with other course participants (students). This high rating was since the course participants had known each other for a relatively long time. They were in 7th semester and used to meet in classes or campus before the pandemic. When the pandemic began and they were parted, they had no difficulty sustaining engagement among them. The class's bonding was already firmly anchored.

The five aspects of SP rated moderate were SP 14, 15, 20, 21, and 22. They can be divided into two, sense of class belongingness and comfort in putting forward opinion, disagreement, acknowledgement of ideas, and collaboration. The first, SP 14 relates to sense of belonging of the class and distinct impressions of some course participants (SP15). They were familiar to each other's characteristics and acknowledged each other's impressions so that they had sense of class belongingness, comfort in disagreement, acknowledgement of students' viewpoints by classmates and a sense of collaboration. The second regarded with comfort in putting forward opinion, accepting and acknowledging diverse point of views among them, and endorsing collaboration. They had sense of freedom to express differing views without fear. Being moderately rated, instructors needed to find a way out to improve these aspects.

Two aspects of SP were rated low, namely SP16 and 18. SP16 relates to the use of online or web-based

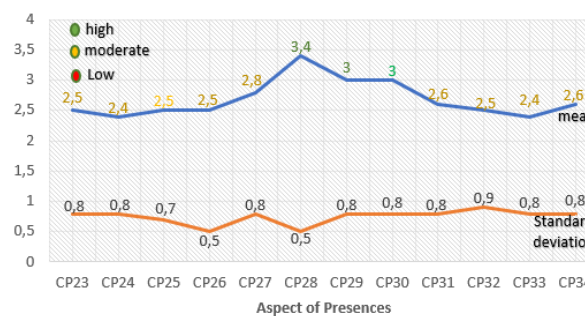


Figure 3 Cognitive presence.

communication as an excellent medium of social interaction. The participants mentioned that they communicated with the instructor using WhatsApp and students-students communication was nurtured well using various modes, however, the communication and interaction with the instructor was insufficient. The dominant asynchronous mode could be the reason for this shortage. As cited from Kung-Ming and Khoon-Seng (2009) above, asynchronous communication provides the advantage of flexibility over synchronous, since learners can use the system whenever they want and have more time to ponder before making a point of discussion. Web-based is an excellent medium for communication and interaction because the instructor can set up the time or schedule when and how often his posts can reach the students. Additionally, the web-based discussion can prevent the students' feeling of discomfort and inhibited. This class atmosphere is conducive to foster productivity in course discussion thus creating engagement for meaningful learning.

Through class observation at the beginning or the course, the lecturer's role/involvement was clearly seen. He began the course by initiating community building activities through establishing relationships and making social connections. The lecturer also pushed his students to engage in critical analyses and higher-order thinking in the online environment. He helped his students express their thoughts and ideas for engaging and growing social presence.

The lecture began the class with icebreaking activities to put the students at ease and build emotional bond between the lecturer-students and student-student. The lecturer sang two contemporary songs partially and offer voluntary students to continue the rest. Then he welcomes all students. He also introduced "two observers" and their purpose of observing the class.

At the beginning of the semester, the instructor had also strived for community cohesion as suggested in COI social presence (Arbaugh et al., 2008). The instructor asked all students to activate their cameras calling them one by one so nobody "hid" and disengaged with classmates and lecturers. The lecturer called the off-camera students to activate their cameras. He told the students who had connection problem thus unable to turn on their

cameras asked permission in the chat-box. He even asked the students to call their classmates who hadn't joined the Zoom meeting to join.

### 3.3. Cognitive Presence

The statistic showed that aspects of cognitive presence examined fell predominantly into moderate rate of online learning experience—only three aspects out of which were categorized as “high”. Aspects of CP rated high are CP28, 29, and 30, meanwhile the rests, CP 23-27 and 31-34 were all moderate. Even though no single aspect was categorized as “low”, rooms for improvement were open for moderate-rated aspects. (See figure 3)

To begin with, CP 28 refers to the virtue of online discussions in helping the participants appreciate differing point of views. This aspect of experience was highly rated with mean score 3.4, the highest out of 34 examined. The gap of participants' perception of this aspect was also very narrow indicated with SD 0.5. Another aspect rated high was number 29, combining new information helped the participants answer questions raised in course activities. The participants mentioned that they were always encouraged to search various information from available sources. They admitted this activity led them to rich information that helps them to answer questions. At last, but not least, learning activities facilitated by the instructor helped the participants construct explanation or solutions. They were often grouped for synchronous group discussion to work on assignments collaboratively. The facilitation turned out to be effective for participants to exercise their cognition. Kanuka & Garrison (2004) assert that discourse, collaboration, management, reflection, monitoring, and knowledge construction are crucial methodological constructs to facilitate cognitive presence.

9 aspects of CP were rated “moderate”, CP23-27 and 31-34 with the mean ranged from 2.4-2.8 and SD 0.5-0.8. The data showed that all aspects were close in rating and low in variability. CP 23-27 concern with interest, motivation, and curiosity in the content. To construct meaning, the instructor should prepare challenging and attracting contents that can tap participants' curiosity, enhance motivation and interest. Garrison, Anderson and Archer (2001) define cognitive presence as the extent to which students “are able to construct meaning through sustained communication.” In other words, students are more likely to grasp and retain information when the instructor creates assignments and activities about that topic. The data showed that the gap among participants was narrow as indicated by SD 0.5-0.8. CP31-34 concern with reflection of course content and discussion, solutions to problems, and development and application of knowledge during course or outside course activities. Like CP23-27, CP31-34 mean were also very close to each other (2.4-2.6), even closer than CP 23-27 with a bit narrower variability (SD 0.7-0.8). However, scores 24-26 were just slightly above the borderline of low meaning

that these aspects of cognitive presences call for crucial improvement.

CP23 concerns problems posed that increase participants' interest in course issues. The mean score for this aspect fell slightly above “low” margin. (Harackiewicz, Smith & Priniski, 2016) posits that promoting interest can contribute to a more engaged, motivated, learning experience for students. There are many ways to enhance students' interest, among others, attention-getting settings, contexts evoking prior individual interest, problem-based learning, and enhancing utility value. Those ways can also pique students' curiosity (CP24) that drive them to use variety of information sources to explore problems posed (CP26). Good questions or inquiries related to contents can also be motivating (CP25). Through questions that increase interest and curiosity, students can find relevant information that help answer the content-related questions (CP27). Heick (2019) claims that a good inquiry can benefit thinkers by opening minds, shifting paradigms, and forcing the uncomfortable yet transforming cognitive dissonance that comes with it. It is common that an instructor asks questions to know a student's capacity to answer queries in education. But it's possible that their ability to ask their own big questions—and, more importantly, their willingness to do so—is more crucial.

The last four aspects of cognitive presence concern with reflection on course content and discussion (CP31) and solutions to course problems (CP33), and application of the knowledge created in the course (CP32) and (CP34). First, reflection on course content can help students understand fundamental concepts. Rodgers (2002) theorizes that reflection is a significant practice for students to make sense of and grow from a learning experience. Students rated this aspect of learning experience 2.6 or “moderate”, three points above the “low” line. Second, ways to test and apply knowledge (CP32 and 34) acquired from the course was rated 2.5. Students admitted that they understood and had quite clear picture how to test and apply the knowledge, yet, for the time being, they didn't have chance to prove it to help ease their work or other non-class related activities. However, they believed they had developed solutions to course problems that are applicable or transferable to real practice. Rated 2.5, or just 1 point above the low line probably because the students had no time yet to try them out in real practices.

Through virtual class observation at the beginning of the course, interaction intensity had started to grow as students could acknowledge their classmates' thoughts and ideas. They were involved in agreement, disagreement, compliments, and questions. When a student put forward his/her opinion or stance, he/she referred to that of said by his/her classmate(s). At the beginning of the course the students were also introduced with the content to go through, course policy and rules of

conduct to abide for during the semester. Regarding content, students had good prior knowledge to share and at the same time they had willingness to share. The lecturer's expertise and experience also helped good sharing of the content. Collective knowledge to share and the willingness to share it could be seen in the first day of the course.

#### 4. CONCLUSION

The research revealed that learning experience was positively perceived by course participants with slight differences in each aspect examined with the tendency toward "moderate". Out of 34 aspects of presences examined, most of them called for actions for improvement. The robust aspects rated "high" were mainly about clarity of instruction, encouragement, reinforcement a sense of community (TP), comfort in conversing and student-student interaction (SP), online discussion, combining new information, learning activities, and reflection (CP). On the other hand, feedback (TP), web-based communication, and participation in discussion (SP) were the weakest aspects of participants' learning experience. Community of Inquiry (COI) framework instrument was valid that be used to identify course participants' perception of learning experience in their online class that reflected their satisfaction. The construct that comprises three interconnected presences, teaching presence (TP), social presence (SP), and cognitive presence (CP) was able to evaluate teaching and learning activities conducted remotely as perceived by course participants. The rating of satisfaction of their learning experience was comparable to that of the result of observation and WA-assisted online chat.

As the research participants were 7<sup>th</sup> semester students and they had been classmates before the pandemic, student-student and student-lecturer engagement may been firmly established, therefore, similar future research is encouraged with freshman participants.

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