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## ACCOMODATING COGNITIVE PRESENCE IN TEACHING ENGLISH AS A FOREIGN LANGUAGE IN THE IMOOC (INDONESIAN MASSIVE OPEN ONLINE COURSE)

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### ABSTRACT

Teaching online provides more benefits to facilitate the development of students' cognition. With online media, students are given privileges to manage the pace of their own learning without waiting for instructions of the teacher. Moreover, asynchronous communication mode as one of the characteristics of online media gives more privacy for participants to reflect on the teaching inputs. This paper aims to describe students' cognitive presence during the discussions. The content analysis on the students' posts in the discussion was carried to describe the pattern of presence cognitive structure. Following the analysis of 25 online participants, the study found the following pattern of cognitive presence: triggering event (20%), exploration (40%) negotiation (15%), and resolution (10%). Most participants have shown their most active participation during the triggering event or the early stages of discussion. For some reason, it happened due to the fact that their performance did not require excessive cognitive energy. However, gradually their active involvement gradually in following phases such as exploration, negotiation and resolution. This study recommends the importance of the role of instructors to facilitate meaningful learning process in an online learning: designing, carrying out instructions while establishing favorable social relationships among learners.

**Keywords:** teaching presence, social presence, cognitive presence, a community of inquiry

### A. INTRODUCTION

This paper is a preliminary study on the implementation of the Indonesian Massive Open Online Course shortened to the IMOOC. The MOOC is an internet-based online program that contains learning modules about the integration of technology into the classroom in order to build students' autonomous learning attitudes. Attended by pre and in service teachers from several cities of Indonesia, this program is scheduled to last ten weeks. To run this online course, the author who is also the instructor of the IMOOC has used a Learning Management System called Canvas. With this platform, the writer and other seventeen professors from various universities in Indonesia designed and developed the modules in a structured, scheduled, and integrated ways. The organization of the IMOOC is consistent. In every module there are learning objectives, learning materials (text reading, movies), assignments (peer review, discussion), assessments (multiple choice tests, essays), the reports of the learning, and calendar of the events. In addition, the programs in the IMOOC have been scheduled. In so doing, the participants can learn at their pace.

In addition to teaching presence and social presence, cognitive presence is one of the essential aspects in the construct of a community of the inquiry. The cognitive presence refers to the extent to which students are capable of constructing meaning

through continuous reflection in a critical research community through sustained communication (Garrison & Anderson, 2003; Garrison, Anderson, & Archer, 2001; Gunawardena, Lowe, & Anderson, 1997). The cognitive abilities generate better results when they are integrated cooperatively (Resnick, 1987). This ability can be promoted and maintained by social presence (Fabro & Garrison, 1998; Gunawardena, 1995). Garrison et al. (2000, 2001) mention cognitive presence is achieved through greater use of group work that values the personal contribution and promotes secure learning environments to foster exchange (Matheson, Wilkinson, & Gilhooly, 2012). In short, the model in cognitive presence proposed identifies four non-sequential phases: activation (a triggering event, an evocative and inductive process), exploration, integration, and resolution (Garrison & Anderson, 2003; Garrison et al., 2000).

The triggering event is a problem or dilemma that is identified or recognized through experience. Teachers' tasks or expectations often become triggering events. Garrison and Anderson (2003) argue that exploration involves first understanding the nature of the problem and then seeking relevant information and possible explanations. The third phase is integration, and it is oriented to the construction of meaning. Integration is a reflexive phase. Integration is inferred from communication in which the teacher should diagnose misunderstanding of concepts, pose probing questions and comments, and provide additional information in order to model critical thinking. The process of integration occurs on several occasions, shifting between private reflection and public discourse (Fahy, 2002). Finally, Garrison and Anderson (2003) argue that resolution of the dilemma or problem yields results that usually pose new questions, activating new cycles. For Park (2009), this phase involves testing ideas and hypotheses and treating the contents from a critical perspective.

Numbers of writers have investigated the cognitive presence. Maddrell, Morrison, and Watson (2011) found that only cognitive presence correlated significantly and positively with achievement measures. These findings were very reasonable. People's critical thinking abilities would surely affect the quality of their performance both in the form of test results or project-based assessment. Meanwhile, Gutiérrez-Santiuste, Rodríguez-Sabiote, & Gallego-Arrufat, (2015) analyzed the predictive relationship of cognitive presence and teaching through social presences. They found that the correlation between social and cognitive presence was very high. In other words, the maturity of people's thinking was much influenced by the atmosphere of personal relationships with their peers in the online learning community. In a favorable atmosphere where the participants uphold the principle of secure and mutual trusts, they were likely to cooperate, as for example, by exchanging ideas and giving feedback to each other.

As far as the writer's library research is concerned, the previous studies on the cognitive presence have taken place within the context of western cultures. In fact, the culture is an important factor determining people's way of thinking and behavior. A study by Littlewood (1999) has found that Asian and Western students have affirmed such differences. While there is no study that concerns the online participants in the Asian context, this article is intended to fill in such a gap. This article focuses on how the participants develop their cognitive presence in the online community.

## **B. METHOD**

Thirty seven pre-and in service teachers who participated the IMOOC (Indonesian Massive Open Online Course) became the subjects of this study. Data were in the form of the postings they made in the discussion forum. To elicit their ideas in the discussion forum, the prompts were given at the beginning of the discussion (Digital Literacy for the 21st Century Teachers). Before all the participants began posting their



ideas, the instructor set the rules for them. For example, they were required to give at least three postings. In addition, they also needed to pay attention to netiquette: adhering to ethics when expressing, showing or commenting ideas politely. To assess the substance of the participants' posting, the instructor used a rubric. For example, score 5 (complete) would be given to the participants if they were able to provide three postings. Otherwise, they would be graded 0 (incomplete). The content analysis was applied to analyze the data. To do so, several techniques were employed such as conducting in-depth reading of the texts, coding the texts in accordance with the criteria of cognitive presence, making tabulation, interpreting and drawing

### C. FINDINGS AND DISCUSSION

Data were gathered from the IMOOC (Indonesian Massive Open Online Course) participants' postings in the discussion task. About 37 pre and in service teachers participating in the IMOOC became the subject of the study. The instructor had prepared discussion prompts for the participants, and the latter were required to give at least three postings. Besides giving their own ideas about the topic (Digital Literacy for 21st Century Teachers), the participants had to give their comments on their online mates. While the discussion task was scheduled in advance, the participants were required to independently manage themselves accomplish this task.

The results of the analysis on cognitive presence pattern showed the development of the discussion did not occur in a sequential order. This study found the most common pattern occurred in the following order: the triggering event, exploration, triggering events, negotiation, triggering event, resolution. When visualized, such a pattern appears like in Figure 1.

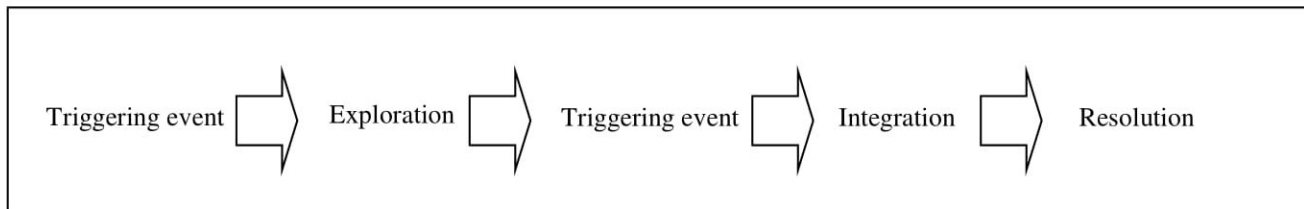


Figure 1. The Cognitive Presence in the Discussion Task

#### Triggering Events

First, this study presents the findings related to the triggering events. This cognitive dissonance is the initiation to inquiry; it compels the learner to resolve their cognitive conflict (Rodgers, 2002). This study found about 23.5% of the whole postings could be considered as the triggering event for the participants to respond. In most cases, these triggering events were in the form of questions, and they appeared on the sidelines during the development stage of the cognitive presence. In addition to the questions, Redmon (2014) mentioned there were other types of triggering events such as tasks, questions or stimuli encouraging in learners a sense of doubt, puzzlement, unsettledness or disequilibrium are the examples of triggering event. For example, the discussion prompts the instructor prepared at the beginning of the discussion were the examples of such triggering events (see Script 1).

*Think about how the 21st century classroom (Digital-Age Classroom) can be applied in the future classes. What do you think are the most important aspects of Digital Literacy that "21st century" teachers should be aware of? In your post, you have to include your*

*choice of the three most important aspects of Digital Literacy that "21st century" teachers should be aware of, and an explanation why these three aspects are the most important.*

(Script 1. The discussion prompts from the instructor)

With the aforementioned prompts, the participants were challenged to think about the most essential aspects English teachers had to have to become digitally literate teachers in the 21 century. Certainly, some relevant information about digitally literate English teachers such as reading texts and movies had been prepared for the participants prior to the discussion. These materials were intended to supplement them with better understanding about the current topic. Interestingly to note, numbers of questions during the discussion not only served to trigger the participants' curiosity but also challenged them to look into the topic of digitally literate English teachers critically (Guthrie & McCracken, 2010, p. 5).

### **Exploration**

Exploration is the second phase of cognitive presence in which learners seek new information or perspectives as part of the process of resolving their cognitive dissonance (Redmon, 2014). This study found the participants neither directly responded to the discussion prompts nor gave their comments on other participants' postings. Instead, the exploration stage did not take place instantly. The participants did post their ideas in the following days. This delayed phenomenon indicated the participants needed considerable number of time to think about their own answers to the discussion prompts. It was common to notice that they began searching some information from various sources such as the internet, additional materials from the IMOOC modules, or even friends. It is common to notice that during this stage they clarify the issue, exchange information, share suggestions and prior experiences, brainstorm new ideas, share alternative perspectives and seek ideas from the literature (Garrison & Anderson, 2003). They did the exploration during this stage, and the example of which is shown in Script 2.

*There are three most important aspects of Digital Literacy to me: First, the ability to perform tasks effectively in a digital environment. Literacy itself means the ability to read and interpret media, to reproduce data and images through digital manipulation, and evaluate and apply new knowledge gained from digital environment (from The University Library of The University of Illinois). As in the words of Kern (2006, p.194), "the Internet (a) introduces multimedia dimensions that go beyond print textuality, (b) alters traditional discourse structures, (c) introduces new notions of authorship, and (d) allows users to participate in multicultural learning communities", being literate does not only entail the ability to comprehend and construct texts. Learners need to be able to correctly interpret materials, have a critical eye on the validity of claims, and acknowledge online sources tactfully. Gruba (2008) suggests that learners need to be proficient in the use of hypertext to incorporate different modes (texts, graphics, audio, and video) into their linguistic production when online. However, Stockwell (2010) views that learners may get overwhelmed with such multiple modes and varying channels of information in the Internet. Another concern is when students choose to express ideas using simplistic language or even non-linguistic ways, e.g. using symbols and emojis, which hamper*

(Script 2. The posting from Student A)

Script 2 is one of the examples how the exploration stage occurred. From this posting, we learn how the participant had done her own research to find the answer. The logic and the flow of the arguments along with numbers of citations from credible sources were obvious evidences she had undergone deep learning. Nevertheless, it was important to note the instructor had to maintain the prevailing favorable learning atmosphere. Giving direct feedback and comments to the participants was the necessity (see Script 3). In so doing, the participants could learn their weak areas which need improvement. To the participants, the instructor's feedback and comments could also serve stimulus for further discussion, and thus potentially trigger the participants' critical thinking. Failing to fulfill this important responsibility was likely to make the participants feel neglected. Script 3 is one of the examples how the instructor has followed up the discussion.

*Thanks Priska for your fabulous idea. You have covered some essential aspects the 21 century Digital Literacy English Teachers should have. Now, after identifying those essential aspects, tell me how much you have applied those principles in your classroom.*

(Script 3. The posting from the instructor)

### **Integration**

The third phase of cognitive presence is integration, in which learners make connections between the information gleaned in the previous exploration phase (Redmon, 2014). The integration occurred when the participants began to connect other ideas with their own. This study found they usually initiated their posting by addressing other participants' names in the integration stage. While addressing other participants' names may imply the intention to build their social bonds (pathic) in the online learning, this strategy could also be viewed as a way to show an emphasis on particular ideas.

*Hi Bernice,*

*I also noted how important it is for the teacher to emphasise the dangers of plagiarising. It is easy to take a bit from here and there when you're online, but I reckon it is also easier to track students who do such things. With programs like Turnitin, teachers can see how much students have taken others' ideas without paraphrasing and proper acknowledgment. Especially when the work is posted online, e.g. on a blog which can be Googled with keywords, the original author might be able to track down the student who copied as well. That's a bit scary hehe*

(Script 4. The posting from student B)

They analyse and synthesise the various data sources to create tentative solutions or justifications. This phase 'typically requires enhanced teaching presence to probe and diagnose ideas so that learners will move to higher level thinking in developing their ideas' (Garrison & Arbaugh, 2007). For that reason, unsurprisingly they sometimes showed their disagreement if they found other opinion or ideas irrelevant. Showing the examples was one of common ways the participants did when disagreeing with other participants. When it happened, we could expect that they were likely to post numbers of comments in the discussion more than required. In short, the integration stage was a good way to see if the participants understood the topic being discussed.

*Hi Graceel,*

*I agree that the teacher has to give support to their student to be critical, and I think, in this digital era, critical thinking is a must to be taught to students. However, I'm afraid*

*that I don't agree with the part that some social media does not have beneficial to the students' learning journey. We, as a teacher, should acknowledge our students' world so that we can connect our learning material to their learning experience. It needs a creativity sense from the teacher to adapt his/her material to be the preference of the students. Consequently, both teacher and students can enjoy the teaching and learning.*

(Script 5. The posting from student C)

### Resolution

The resolution occurs after the initial stage the participants have gone through previous stages: exploring and integrating ideas to answer questions. In the resolution stage, the participants were able to identify or find a solution to a problem. They would defend their beliefs by giving arguments when challenged with questions (Garrison & Anderson, 2003). The proposed solutions can be tested in practice, where the learners 'apply the newly gained knowledge to educational contexts or workplace settings' (Garrison & Arbaugh, 2007) or through a 'vicarious test using thought experiments and consensus building within the community of inquiry' (Garrison et al, 2001). The testing of the solution may result in the learners having to return to the exploration and other phases of the cycle of inquiry rather than seeing the issue as resolved.

*Thank you sir, for the question,*

*I think, knowing the author is important because, we know that the articles are made by the those who are capable enough so we can know that the article is valid.*

*The date of publication is important because something that is true in the previous may not be true today, because most of the issues are dynamics. So it is important to know the date of publication.*

(Script 6. The posting from student D)

The summary of the cognitive presence in the discussion task about Digital Literacy for 21 Century Teachers is shown in Table 1. This table shows the exploration phase (47%) has the highest percentage. However, when it comes to the integration phase (11.7%) and resolution (10%), numbers of posting begin to decrease.

Table 1. Cognitive Presence in Discussion

No	Stages	Indicators	Number of posting	%
1	Triggering Events	Sense of puzzlement, Recognizing the problem	20	23.5%
2	Exploration	Divergence, information exchange, suggestion, brainstorming, conclusions	40	47%
3	Integration	Convergence, connecting ideas, creating solution	15	11.7%
4	Resolution	Apply new ideas, tes solutions, defending solutions	10	17.6%
TOTAL			85	100%



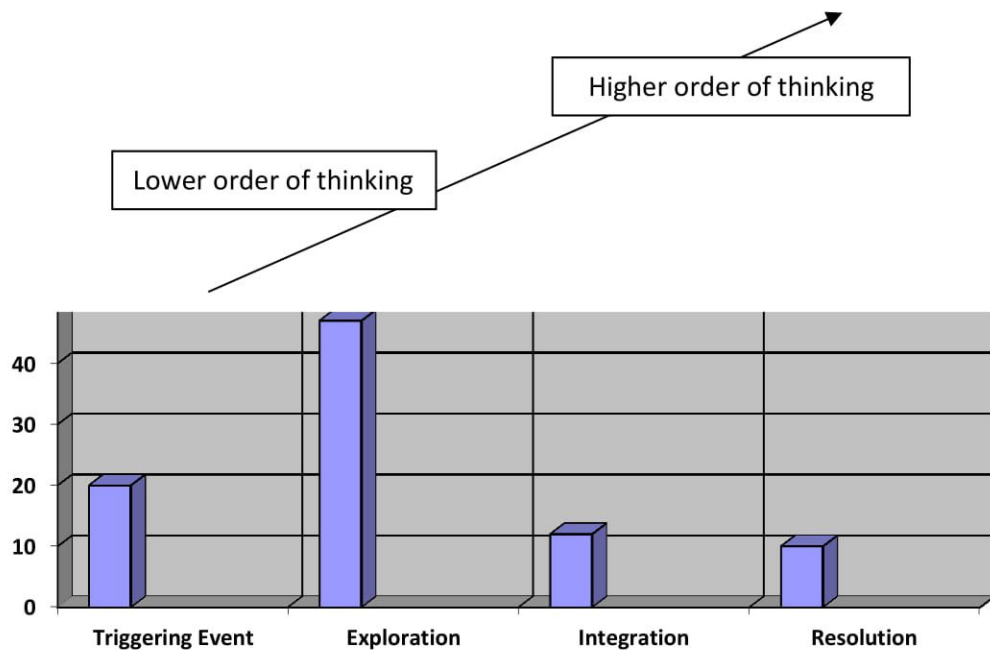


Diagram 1. The Cognitive Presence in the Discussion

These findings have some implications. First, every stage had different functions especially in terms of cognitive tasks to the participants. The earlier stage of the cognitive presence requires lower cognitive demands (lower order of thinking) than those of the later stage (higher order of thinking). In short, the higher means the more difficult. In the exploration, the participants were demanded to remember, understand and apply new understanding or concepts. Less demanding cognitive tasks in the exploration stage offer easier tasks for students to carry out their assignments. For that reason, the participants gave considerable greater numbers of postings in the exploration than those in the integration or resolution stages.

#### D. CONCLUSION

Cognitive presence is one of the aspects of a community of inquiry where all members construct, exchange and learn new knowledge and skills using their critical thinking. Nevertheless, it is not always easy to lead the learners to move beyond one stage to another stage. This study found that numbers of posting have been decreasing. Very few participants were successful at taking the risks to move on. Tasks with higher order of thinking certainly expose the learners with more difficulties and challenges. The role of the online instructor is crucial at this point as to motivate and encourage them to take steps further in learning and facing more difficult and demanding tasks.

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