

CHAPTER IV

FINDINGS AND DISCUSSION

In this chapter, the researcher presents research finding and discussion. In this chapter the researcher presents the answer of problem statements that contained in the first chapter. The problem statements are. (1) How does Community of Inquiry framework of element cognitive presence in online discussion? (2) How students perceive does based on element cognitive presence to evaluate perceive learning and satisfaction?

A. Research Findings

The research finding is answering of the problem statements that formulated before. The findings are presented under two main headings: learning processes and learning outcomes. Under learning processes, the results of the transcript analysis of weekly online discussions, were reported to reflect students' cognitive presence throughout the course. For learning outcomes, students' perceived learning and perceived satisfaction obtained through CoI survey, were reported.

1. Cognitive Presence in Online Discussion (Learning Process)

This research was conducted in English education department students of 2017 by transcript analysis through online discussion forum in Canvas website of Introduction to Linguistics subject class A and B. Students' level of cognitive presence throughout the course was explored by analyzing the 12 weeks of discussions in the course. In order to explore students' level of cognitive presence, the messages that the course instructor or the guest speakers posted were excluded from the analysis. Table 4.1 show the detail total number of messages that students

posted from online discussion 12 weekly class A and B. The total number of messages that students posted was 870 in the course.

Table 4.1. Total Number of Messages

Class	Weekly Online Discussion											
	1	2	3	4	5	6	7	8	9	10	11	12
A	26	36	33	56	35	34	41	76	51	37	50	38
B	27	32	28	30	29	33	28	30	27	28	30	25
Total Message	268			306				296				
	870											

Cognitive presence was analyzed utilizing the Practical Inquiry (PI) model by Garrison et al (2003) (See **Table 3.2** in chapter III). The first phase of cognitive presence is a *triggering event* that was coded when there is an indicator of recognizing a problem and sense of puzzlement. Next, the *exploration* phase, the indicators were divergence-among group members in the online community, divergence-within a single message, information exchange, suggestions for considerations, brainstorming, and leaps to conclusions. The third phase is the *integration* phase, which is found as convergence-among group members, convergence-within a single message, connecting ideas, synthesis and creating solutions. The highest level of cognitive presence is the *resolution* phase, where messages included vicarious or real world application of solutions/ideas and defending solutions.

The total number of messages with cognitive presence indicators posted by the students is 852 in the course. Table 4.2 below illustrates the coding results for categories of cognitive presence over the three segments of time in the course (See **Appendix C** details of Transcript Analysis). As the result of distribution of percentages for each category of cognitive presence showed, that 71 % the integration phase was the most frequently coded category of messages posted by students in the course, while triggering event phase was 9%, exploration phase was 20%, and resolution phase was none discovered. This means it can concluded that students in course were able to integrate information from various sources, develop justified hypotheses, build on each other's ideas or create solutions.

Table 4.2. The Result of the Transcript Analysis

Cognitive Presence Phase	Transcript Analysis			Total Message	Percentages
	First 4 Week of Discussion	Second 4 Week of Discussion	Last 4 Week of Discussion		
Triggering Event	17	31	28	76	9%
Exploration	75	45	52	172	20%
Integration	169	230	205	604	71%
Resolution	0	0	0	0	0%

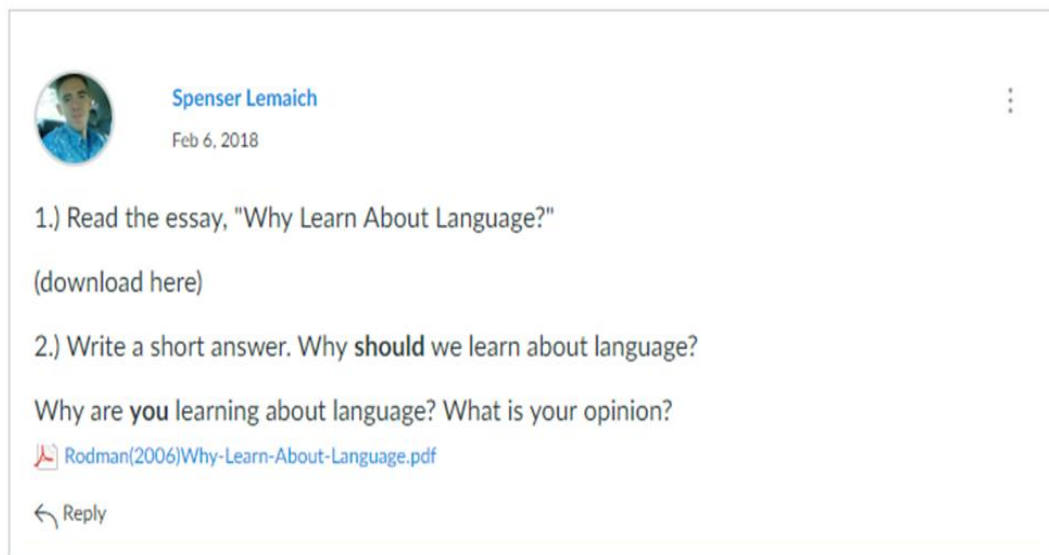
And also, for the prove it the researcher gives the examples of each phase of cognitive presence found in online discussions board (More examples in **Appendix D**).


a. First is Triggering Event

According to Garrison et al (2001) states at this step, status of problem or dilemma based on experiences is defined. It is preferred that problem or dilemma that will be defined at this step are related to previous studies or experiences of students. In this context, lecturers can create triggering events by giving a direct question or task for students to make a question.

The Strategies that uses by the lecturer in this course such as discussion prompts and questioning. This is appropriate according to Darabi et al, (2011) states. Discussion prompts that inherently guide students to progress through the phases of cognitive presence were more successful in eliciting integration and resolution. Questioning that the condition in which facilitators asked questions in relation to students' proposed solutions to a given problem generated all phases of cognitive presence and the most resolution when compared to other strategies. The example of triggering event phase are shown in figure 4.1.

Picture 1. Triggering event by lecturer




 **Spenser Lemaich**
Feb 6, 2018

1.) Read the essay, "Why Learn About Language?"
(download here)

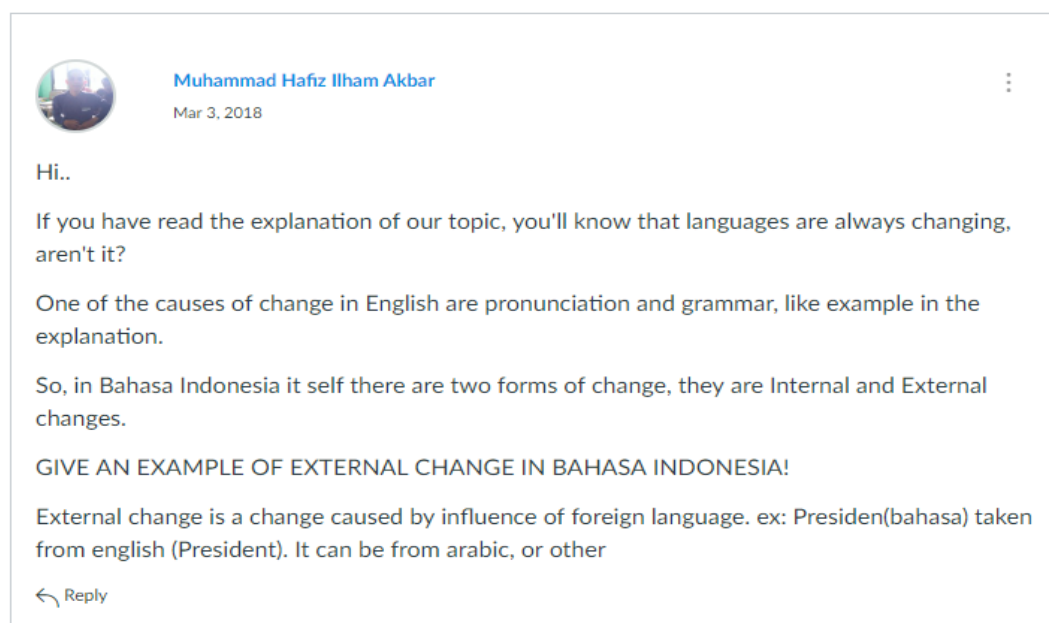
2.) Write a short answer. Why **should** we learn about language?


Why are **you** learning about language? What is your opinion?

 [Rodman\(2006\)Why-Learn-About-Language.pdf](#)

← Reply

Picture 2. Triggering event by student



 **Muhammad Hafiz Ilham Akbar**
Mar 3, 2018

Hi..

If you have read the explanation of our topic, you'll know that languages are always changing, aren't it?

One of the causes of change in English are pronunciation and grammar, like example in the explanation.

So, in Bahasa Indonesia it self there are two forms of change, they are Internal and External changes.

GIVE AN EXAMPLE OF EXTERNAL CHANGE IN BAHASA INDONESIA!

External change is a change caused by influence of foreign language. ex: Presiden(bahasa) taken from english (President). It can be from arabic, or other

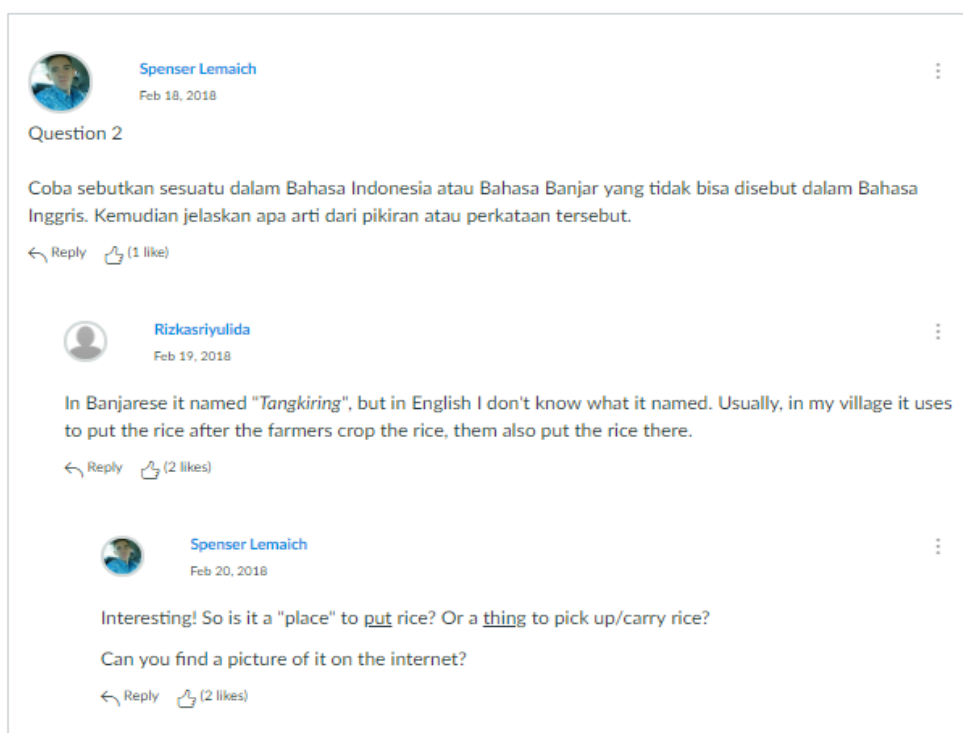
← Reply

Figure 4.1. Example of Triggering Event

b. Second is Exploration

According to Garrison et al (2001) states students at this stage, try to understand every nature of the problem first; then, they make possible explanations and do research for appropriate information. In this phase, participants shift between the private, reflective world of the individual and the social exploration of ideas.

Students, at the end of this stage, will start to be more selective regarding what is more appropriate as subject or what is appropriate for problem. In this context, many of students answer the question relative short or base on personal experience without considering from other resources, and giving relevant information or possible explanation. The example of exploration phase are shown in figure 4.2.



The screenshot shows a forum thread with three posts:

- Post 1:**
 - Spenser Lemaich** (Feb 18, 2018)
 - Question 2**
 - Text:** "Coba sebutkan sesuatu dalam Bahasa Indonesia atau Bahasa Banjar yang tidak bisa disebut dalam Bahasa Inggris. Kemudian jelaskan apa arti dari pikiran atau perkataan tersebut."
 - Interactions:** 1 like
- Post 2:**
 - Rizkasriyulida** (Feb 19, 2018)
 - Text:** "In Banjarese it named "Tangkiring", but in English I don't know what it named. Usually, in my village it uses to put the rice after the farmers crop the rice, them also put the rice there."
 - Interactions:** 2 likes
- Post 3:**
 - Spenser Lemaich** (Feb 20, 2018)
 - Text:** "Interesting! So is it a "place" to put rice? Or a thing to pick up/carry rice? Can you find a picture of it on the internet?"
 - Interactions:** 2 likes

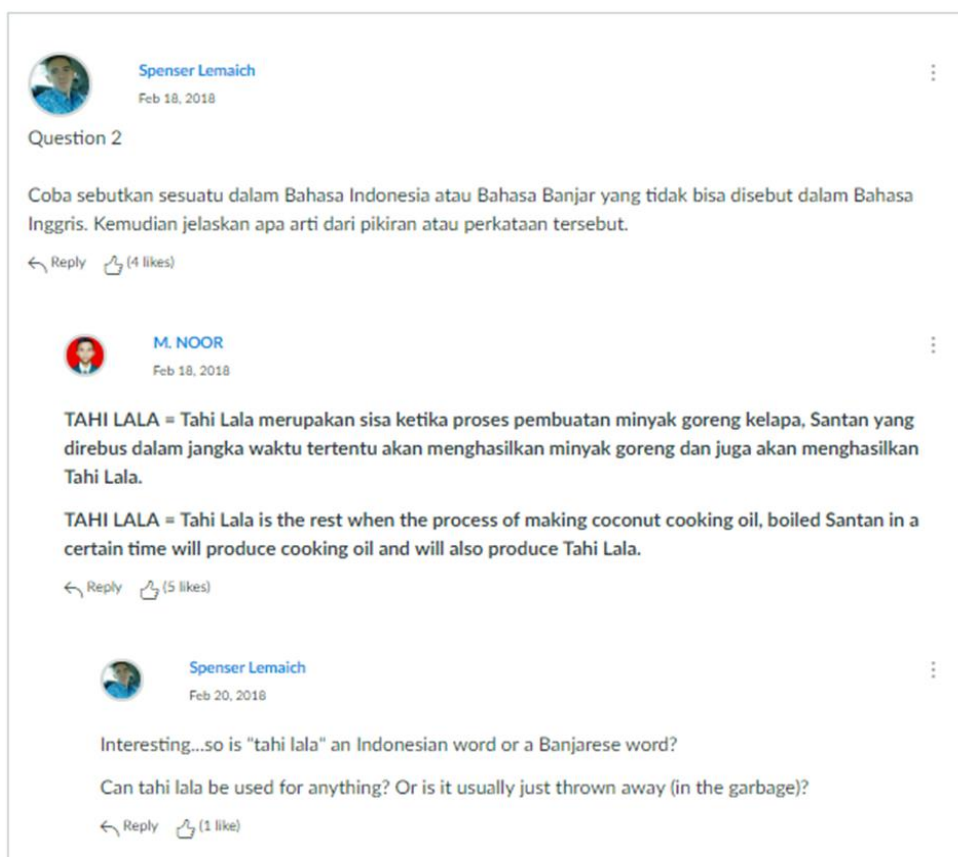


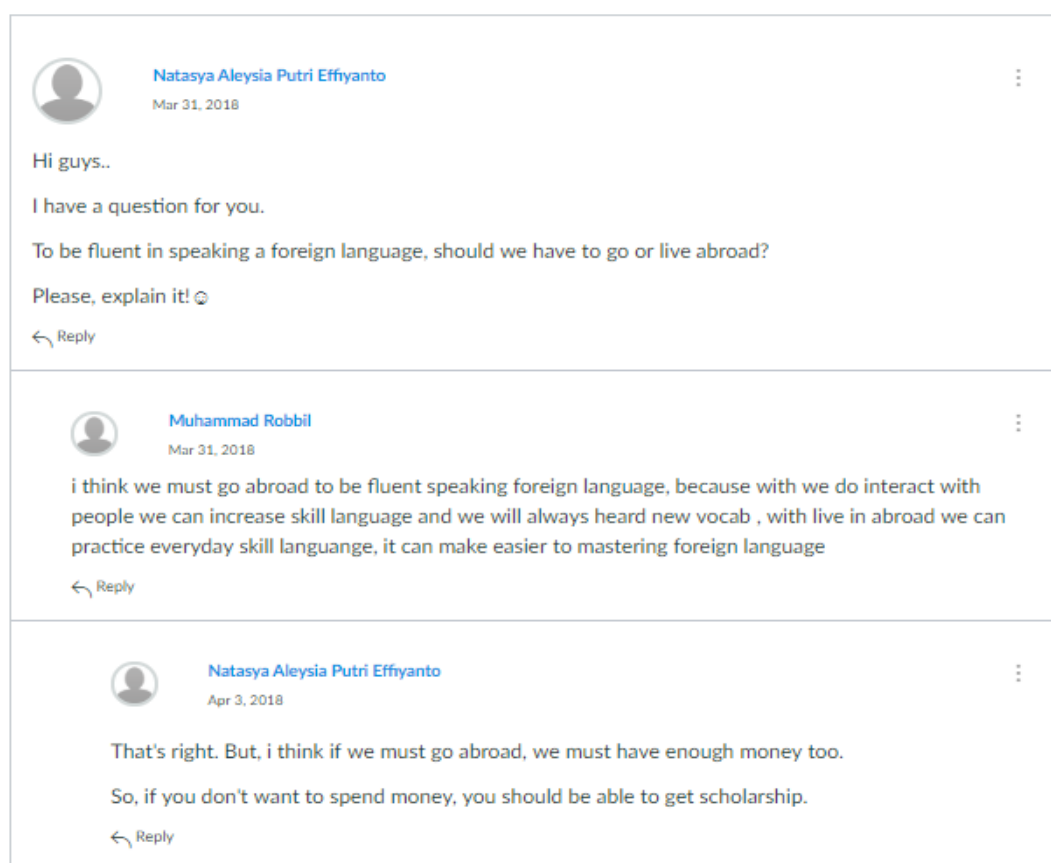
Figure 4.2. Example of Exploration

c. **Third is Integration**

According to Garrison et al (2001) states at this stage, a meaning is constructed based on the opinions manufactured at the exploration step. Students, at the transition period from exploration step, would take how to describe and integrate the subject or event into consideration; and would start assessing applicability of opinions. Evidence of the integration of ideas and the construction of meaning must be inferred from communication within the community of inquiry. This phase requires active teaching presence to diagnose misconceptions, to provide probing questions, comments, and additional information in an effort to ensure continuing cognitive development, and to model the critical thinking process.

In this context, that integration found most frequently especially on early week 3 until 12 because online discussion in this course the lecturer provided material earlier in class and the lecturer give a task on 3 students of them to make 3 questions that would posted in online discussion related the pervious topics in the classroom. Therefore, teaching presence is essential in moving the process to more advanced stages of critical thinking and cognitive development. The example of integration phase are shown in figure 4.3.

Picture 1. Discussion about speaking English




The image shows a screenshot of an online discussion thread with three messages. Each message includes a profile picture, name, date, and a 'Reply' button.

Message 1:
User: Natasya Aleysia Putri Effiyanto
Date: Mar 31, 2018
Text: Hi guys..
I have a question for you.
To be fluent in speaking a foreign language, should we have to go or live abroad?
Please, explain it! 🙏
Reply

Message 2:
User: Muhammad Robbil
Date: Mar 31, 2018
Text: i think we must go abroad to be fluent speaking foreign language, because with we do interact with people we can increase skill language and we will always heard new vocab , with live in abroad we can practice everyday skill languange, it can make easier to mastering foreign language
Reply


Message 3:
User: Natasya Aleysia Putri Effiyanto
Date: Apr 3, 2018
Text: That's right. But, i think if we must go abroad, we must have enough money too.
So, if you don't want to spend money, you should be able to get scholarship.
Reply

 **Purnama sari**
Mar 31, 2018

I think not necessarily, indeed one of the best ways to be fluent in a foreign language is to mix in a foreign language. For example we want to be fluent in English, then by studying in America or other countries that use English as the main language of instruction will help us to improve our English proficiency. But in our own country we can also be fluent in foreign language if we prefer the practice of the theory, if we often practice it in our daily life over time we can also fluent in foreign languages. Because I know, some Americans are not all fluent in English, especially in rural areas, they still tend to use local language as well as Indonesia.

THE INTERNATION WHEREAS WE ARE WE CAN LOVE FOREIGN FRIENDS IF WE ARE SINCERELY TO LEARN IT


← Reply

 **Natasya Aleysia Putri Effiyanto**
Apr 3, 2018

Thank you for your answer, Purnama. But, i'm sorry, i was not focus with your last sentence.. because, in the last sentence using all capital letters 😊

← Reply


Picture 2. Discussion about learn English

 **Ermi Nur Ardillah**
Feb 7, 2018

the most fundamental thing why we have to learn the language is because we need it, human is social creature, in social relations need interaction, media used to interact is language. with this social connection that leads us to achieve all our needs and dreams, hence language has a great influence for the life of every human being

I learned the language when I achieve all my needs and desires, for example my childhood is not fully speak the language, of course when I ask for food is not necessarily given this food in because the language used is not correct, hence language is the fulfillment for the needs and wishes or dreams

in my opinion, language is the transport of social relations, further than that, language is the foundation for a house in which it exists
great life 😊
ciyeeee poetic, wkkkk

 **normasila**
Feb 7, 2018

in fact : learn about language can increase global understanding ,and for work, communicate better when traveling, improve employment potential , increase native language ability,sharphen cognitive and life skill. and then learning another language opens doors into other cultures and communities and foster and friendship and opportunities.the ability to communicate in another language makes you a more attractive job employee, better undertsand cultural contexts, become a better communicator, think more expansively about the world.

in my opinion the reason learn about language is make it easy to communicate other people and make it easy to traveling abroad and knowing about existing culture around the world, and make us understand learning without confusion. ehehe

Picture 3. Discussion about Anglo-Saxon age

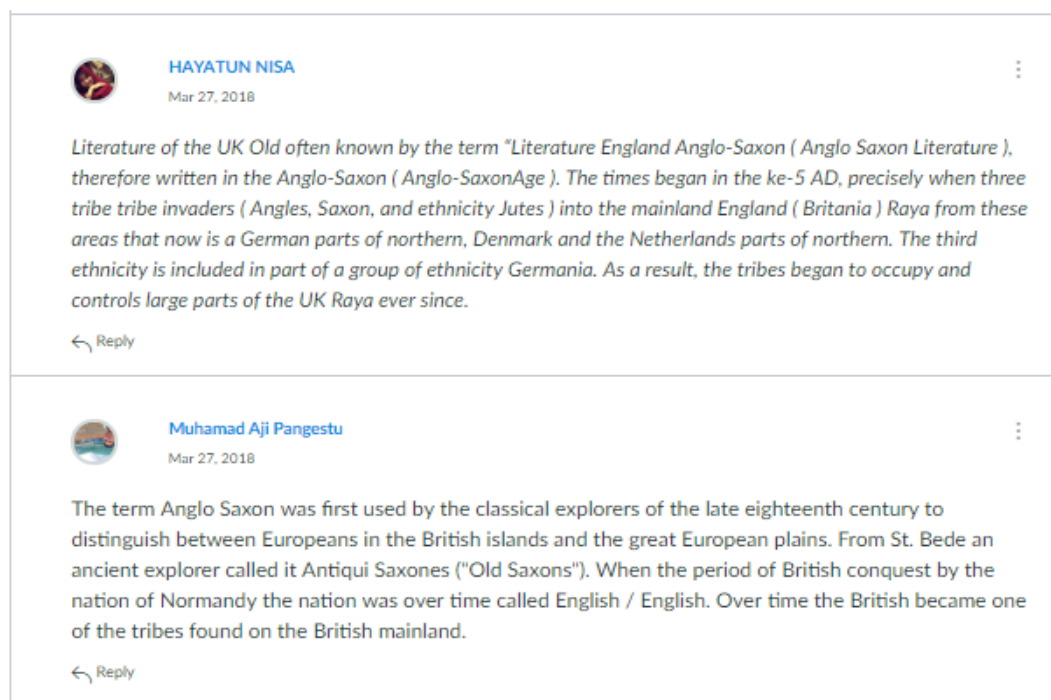


Figure 4.3. Examples of Integration

2. Student Perceive of Learning and Satisfaction (Learning Outcomes)

This research was conducted in English department students of 2017 by using CoI Survey of cognitive presence (see in **Table 3.4** in Chapter III). The purpose this section was determine students perceive learning and satisfaction in the course. The twelve cognitive presence items in the CoI survey provide a reasonable snapshot of the thinking and learning processes occurring in an online course, then it is clear that these items can be used to evaluate course designs relative to their support for the development of cognitive presence.

In this section the researcher conclude each category of cognitive presence survey. For example, the triggering events items (Questions number 1, 2, and 3) suggest that designers must provide learners with interesting problems, discussion questions, and task-related activities to engage them in the inquiry process. The exploration items (Questions number 4, 5, and 6) point to the importance of providing learners with opportunities to brainstorm and discuss issues and ideas, and encouraging them to use and search for information to support their inquiries and positions. The integration items (Questions number 7, 8, and 9) can be used to develop activities which require reflection, the integration of ideas, and the development of explanations and problem solutions. The resolution items (Question number 10, 11, and 12) suggest that such problems, discussions and or activities need to be authentic and linked to the learners' practice for them to stay engaged through to resolution.

Based on the results collected from 50 samples and calculated using a Likert-scale, and has calculated the average is 70.1% in Table 4.2 and **Appendix B** shown the answer result of questionnaire. It can be concluded that looking at intervals in Table 4.3 are categorized as Agree. The result analysis of survey data showed that students had high perceptions of their learning and satisfaction in the course.

In this case, it can concluded that the elements of cognitive presence as defined in the CoI framework provide a reasonably complete catalog of the thinking and learning processes that take place in a collaborative constructivist environment.

Table 4.3. Result of Questionnaire

Number Question	Scale					Result	Average
	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)		
Q1	3	8	25	11	3	81.7%	70.1%
Q2	1	5	29	12	3	77.7%	
Q3	1	7	17	19	6	72.7%	
Q4	2	2	15	18	13	66.4%	
Q5	1	1	14	21	13	64.4%	
Q6	1	3	12	21	13	65.5%	
Q7	0	2	15	18	15	63.7%	
Q8	1	7	20	20	2	75.7%	
Q9	0	6	19	22	3	72.6%	
Q10	0	4	21	20	5	71%	
Q11	0	3	24	20	3	72.2%	
Q12	1	3	16	21	9	67.9%	

Table 4.4. Interval of Likert Scale

Interval	Scale
0 – 19.9%	Strongly Disagree (Very Low)
20% - 39.9%	Disagree (Low)
40% - 59.9%	Neutral (Normal)
60% - 79.9%	Agree (High)
80% - 100%	Strongly Agree (Very High)

B. Discussion

The researcher would like to discuss the result of study about the using community of inquiry framework to analyze online discussion in Introduction to Linguistics Subject of English Department of UIN Antasari Banjarmasin.

Based on the research questions, some things have already been answered in the findings section. Therefore, in this part of the discussion the researcher concludes further which is not explained in the findings section.

First of all, the researcher confirms about the course design in this study. Introduction to Linguistics Subject that uses in this study is the blended learning environment. According to Krause (2007) Blended learning is an innovative concept that embraces the advantages of both traditional teaching in the classroom and Information and Communication Technologies (ICT) supported learning including both offline learning and online learning. Therefore based on the explanation above, it can be seen clearly that the course is a blended learning environment. And, at the end of each course the weekly is designed for online discussion.

Online discussion in this course uses model of students centered peer E-Learning environment. According to Harris (2007) in this model a student takes on the dual roles of content expert and facilitator of the forum with other students invited to participate and interact with the facilitator and other students on predetermined content of interest. In this way, the student has advanced knowledge of the forum topic that provides a basis to facilitate the discussion. Which to achieve

these goals requires a tool or Learning Management System (LMS). In this context, Canvas app or website is used as a tool.

In students' level of cognitive presence revealed in online discussions was found to be high. Similarly to previous studies (Garrison et al, 2011; Petrea Redmond, 2014; D'Arcy Norman, 2013), the integration phase was found to be the most active in blended environment. At the same time, the resolution phase had the least activity, and in this study not even resolution was found.

These findings are explainable as the result of the instructional design of the course. Moreover, the course design encouraged students to move to higher levels of cognitive presence (e.g., resolution), it should be noted that time was identified as a barrier in online discussions in terms of reaching resolution. Therefore, it may be that the length of the course is not sufficient for students to put their projects in action and share the application results with the other students.

Considering these findings, it can be concluded that the online discussion board is an effective tool to represent students' level of cognition during the learning process; however, because of some contextual constraints, such as design and time, the discussion was not sufficient to demonstrate the final phase of cognitive presence (i.e., resolution) thoroughly. The reason why because online discussion in this course that done every week is chosen in a different topics.

In terms of learning process (cognitive presence), based on the result of finding that taken from transcript analysis of 12 weekly discussion that conducting on class A and B shows, that the integration phase was the most frequently coded

category of messages posted by students in the course. This means that students in course were able to integrate information from various sources, develop justified hypotheses, build on each other's ideas or create solutions.

This statement appropriate to Garrison (2001) that practical inquiry model reflects critical thinking process. This means creating a cognitive presence. In this context, cognitive presence can be described as a research process to describe problem, searching for appropriate content and opinions, integration of opinions created within a meaningful structure or solution, and testing usefulness of output directly or indirectly.

In terms of learning outcomes (perceptions), the results indicate that students in the course believed that there was a high degree of learning. Another interesting result was the relationship between students' perceived level of cognitive presence (i.e., practical inquiry) and their learning. Considering that all findings related to learning process and outcomes were high around 65% above, it can be concluded that cognitive presence in a community of inquiry is strongly associated with high levels of perceived learning. It is suggested that collaborative development of cognitive presence in online discussions and students' perception of cognitive presence is associated with high perceptions of learning and actual learning outcomes.

Overall, the results suggest that students in the blended course were able to reach high levels of cognition. It is interesting to note that students in the blended course had higher perceptions of learning and satisfaction in cognitive presence.

Further, that is need noting is the higher frequency of activity at the integration phase in the blended learning.

For this explanation, students in the blended course started weekly discussions in face-to-face meetings (on the classroom). Therefore, much of the triggering events and exploration may have occurred during the face-to-face portion of the blended course. Taken together, this suggest that the blended course format may have provided better conditions for higher-order thinking. Garrison, et al (2004) also assert that blended learning is particularly effective to facilitate a community of inquiry by adding an important reflective element with multiple forms of communication to meet specific learning requirements.

As a result, the approach here was to use the PI model (i.e., cognitive presence) to explore process relationships to learning outcomes. The PI model has shown promising results previously and here as a tool to explore cognitive presence and the learning process (Garrison et al, 2003). With the recent development of the CoI survey (Arbaugh et al, 2008), quantitative measures of cognitive presence are possible. This instrument could be used to explore links between learning processes and indirect quantitative measures associated with deep and meaningful learning outcomes. Finally, the goal is to demonstrate that processes described by the PI model are associated with actual higher order learning outcomes and representative measures, such as perceived learning and instruments that measure deep approaches to learning.