

The Importance of Critical Constructivism as a Pedagogical Approach in Online Tutorials at Distance Education Institutions

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ABSTRACT -- *E-learning as one of the impacts of technological change in this globalization era has become an important concern among educational institutions. Critical constructivism has recently been considered as a pedagogical approach in delivering an e-learning program. This approach enables the students to build their individual experiences and share those experiences with each other. The online tutorial of Psycholinguistics/PBIS4332 is offered as the student's learning support. It is expected that during the tutorial, the student teachers are actively engaged in the learning process by sharing their ideas or experiences on the discussion forum. This article aims to (1) evaluate the students' participation in the online tutorial of this course, (2) review some theories supporting the concept of critical constructivism, and (3) analyze how far critical constructivism has been implemented in this online tutorial. The data show that the number of students accessing and participating in this course is on average, between 40-50% of the total. Moreover, the students' postings on the discussion forum have shown that they applied critical constructivism.*

Keywords: critical constructivism, pedagogical approach, online tutorial, distance education

1. INTRODUCTION

E-learning is currently growing rapidly and becoming very popular in the globalization era. Many educational institutions or schools at all levels are starting to embrace the use of E-learning as web supplements in their teaching and learning activities while others even use E-learning as the compulsory platform for their students' learning activities. Critical constructivism has recently been considered as a pedagogical approach in delivering an E-learning program. This approach enables the students to build their individual experiences and share those experiences with each other.

The Indonesia Open University or Universitas Terbuka (UT) is the state university in Indonesia offering open and distance education which currently serves over 600,000 students throughout Indonesia, even outside Indonesia. Online tutorials are offered to students as learning supports. It is expected that they are given enough opportunities to discuss and enrich their knowledge through online tutorials, either with the tutors or with their peers. *Psycholinguistics/PBIS4332* is one of the courses offered to students of the English Education Study Program. Since it is offered to English teachers, it is expected that during the tutorials the students are actively engaged in the teaching learning activities. However, there were many problems in relation to motivating them to be active in learning activities provided in the online tutorial. In this article, the writers intend to 1) describe the current online tutorial of UT, 2) review the theories of constructivism as an appropriate approach for UT's online tutorials, and 3) analyze how far the theory of critical constructivism has been implemented in UT's online tutorials.

2. ONLINE TUTORIAL AS ACADEMIC SUPPORT SERVICES FOR STUDENTS OF UT

The Faculty of Education and Teacher Trainings (FKIP) is one of the faculties of UT that provides teaching and learning process for in-service teachers, including English teachers. From their positions as students as well as teachers, UT acknowledges that their responsibilities in both working and studying make it difficult to manage their time. UT endeavours to help them solve this problem by offering online courses that enable them to study while they are working.

UT has designed some online tutorials that are available as students' learning support as well as printed learning materials. UT always encourages student teachers to be active in online tutorials through the regional offices (ROs), at events such as student orientations. The student teachers are automatically enrolled in online tutorials for the courses they take. Online tutorials are offered to UT's students as one innovative way of communication, giving them academic

support services by using technology. One useful role of technology in e-learning is as a social medium to support learning which enables students to participate in discussions, collaborate with others, and supports discourse among knowledge-building communities (Jonassen, Peck, & Wilson, 1999:13). It is important for UT to offer interactive online tutorials to students where they can communicate with other students as well as with the tutor.

Zuhairi, Adnan, & Thaib (2007) stated that starting from 2004 UT has applied the Moodle Software as the mode of tutorial delivery. They explained the details of online tutorial procedures and regulations that it is an eight week period for each semester. The tutor has to provide weekly online initiation materials with three assignments on the third, fifth, and seventh week. The assignments are submitted to be given feedback and scoring (Zuhairi, et.al., 2007:53). Moreover, students' participation is just as important as their assignment scores since both contribute up to 30% to the final semester grade of the course. The tutor measures students' participation from the level of their interaction during the period of online tutorial.

Since there were many problems in managing the online tutorial, especially students' participation, UT has a challenge in encouraging students to be actively engaged in the online tutorial. Again, Zuhairi, et. al. (2007) explained the current management system of online tutorials at UT and the constraints which the students experienced during the process of the online tutorials. The headquarter (HO) manages the online tutorial procedures with the help of ROs which are responsible to help students in getting the internet access. Each student is given a password to access the online tutorial menu. However, there are many students getting difficulties in access to online tutorial due to "the low quality of telecommunication infrastructure and facilities, the students' inability to operate computers, and the slow response from the computer system. These constraints have discouraged students to pursue interests in participating in online tutorial" (Zuhairi, et.al., 2007:57). Therefore, it has become the online tutor's responsibility to provide various materials as well as interesting activities that are accessible for students.

3. CRITICAL CONSTRUCTIVISM AS ONE PEDAGOGICAL APPROACH

According to Dalgarno (2001), Vygotsky, a constructivist, emphasized learning in a social context where interaction between learners and their peers is a necessary part of the learning process (Dalgarno, 2001:84). Learning from the constructivists' concept, it is a challenge for educators to be more creative in delivering activities in their online class. By using this approach, it is expected that the students can gain better understanding through the activities given to them. Richardson (2008) explained more about the constructivist conceptions that the students "create their own new understandings, based upon the interaction of what they already know and believe, and the phenomena or ideas with which they come into contact" (Richardson, 2008: 4). Furthermore, she explained that constructivism is a descriptive theory of learning (how people learn to develop) which is different from the concept of prescriptive theory of learning (how people should learn)."

Geelan (2006) also discussed two principles of constructivist perspectives on teaching and learning. Firstly, knowledge is actively constructed by learners, rather than transmitted by teachers. Secondly, new knowledge is constructed on the foundations of students' existing knowledge. As an institution applying distance learning in which its students are independent learners, UT should support the tutors to follow those principles. It is expected that the students can construct their own ideas based on their learning experiences as well as construct new concepts from the existing knowledge. Moreover, he delivered six forms of constructivism: 1) personal constructivism, 2) radical constructivism, 3) social constructivism, 4) social constructionism, 5) critical constructivism, 6) contextual constructivism (Geelan, 2006: 58-60). Geelan tried to differentiate the characteristics of the forms of constructivism based on the emphasis of each form as explained in the following table.

Table 1: The forms of constructivism (Geelan, 2006: 58-60)

No	Forms of Constructivism	Emphasis	Theorists
1.	Personal Constructivism	individuals construct knowledge for themselves through constructing the repetition of events	George A. Kelly
		knowledge is actively built up by the cognising subject	Jean Piaget
2.	Radical Costructivism	knowledge is constructed through experience	Ernst Von Glasersfeld
3.	Social Constructivism	social effect is the most important factor in both learning and attitudes	Joan Solomon
4.	Social Constructionism	knowledge arises or resides within society	Kenneth Gergen

No	Forms of Constructivism	Emphasis	Theorists
5.	Critical Constructivism	processes of teaching and learning are socially constructed	Peter C. Taylor
6.	Contextual Constructivism	culture as a means of developing and organizing students' ideas.	William W. Cobern

Table 1. The forms of constructivism (Geelan, 2006: 58-60)

Mason and Rennie (2006) emphasized that constructivism is the appropriate approach for E-learning. Moreover, they gave a review of the aim of constructivist principles in relation to E-learning that “the aim of constructivist principles as applied to e-learning is to engender independent, self-reliant learners who have the confidence and skill to use a range of strategies to construct their own knowledge” (Mason and Rennie, 2006: xviii). This statement seems to support Taylor’s opinion about the concept of critical constructivism as one form of constructivism delivered by Geelan in Table 1. As the result, students are challenged to be able to construct their own ideas and knowledge based on their understanding of the materials in their learning process. Consequently, “the role of the teacher or tutor changes to facilitator” (Mason and Rennie, 2006: xx). In relation to teachers’ roles, Jonassen, et. al. (1999) discussed the importance of teachers in the learning process on E-learning from the constructivists’ perspective. The teachers have to engage the students’ interaction in the online environment. There are many tools or facilities that educators can use to offer interactive activities, including collaboration with other students. These activities are important as well, in order for students to be able to share their teaching and learning activities with each other.

4. THE IMPLEMENTATION OF CRITICAL CONSTRUCTIVISM ON ONLINE TUTORIAL OF *PSYCHOLINGUISTICS/PBIS4332*

Psycholinguistics/PBIS4332 is one of the compulsory courses of the English Education Study Program. All students are English teachers or instructors who teach students of various levels, from kindergarten to senior high schools. The printed learning materials are still used as the main source. However, the online tutorial for *Psycholinguistics/PBIS4332* is offered as enrichment for the materials provided in the printed learning materials. It is expected that during the tutorial, the student teachers are actively engaged in the learning process. The tutor acts as a facilitator who manages interactivity in the online class. He or she has a responsibility to give feedback to the student teachers when they have any difficulties while learning as well.

E-learning or online learning is now becoming an alternative for educators to engage in teaching and learning activities. Technology is not merely a hardware, but more than that (Jonassen, et. al., 1999: 12). Technology has an important role in transferring knowledge to our students. Zuhairi, et al. (2007) has discussed the constructive effects of UT’s online tutorial. He stated that the online tutorial of UT helps students in: 1) enhancing students’ learning, 2) motivating students to learn, 3) learning interaction, 4) provided with varied learning strategies, 5) promoting independent learning, and 6) improving learning output and outcome. (Zuhairi, et. al., 2007:60). The analysis is taken from the online tutorial of *Psycholinguistics/PBIS4332* conducted in 2012.1, from March 12 to May 6, 2012. UT’s online tutorials are usually conducted eight weeks before the final examination with the assumption that the students can prepare themselves well for the examination with the assistance of the online tutorial. Of the 68 students enrolled in this course, there were 49 or 72% students who accessed the online tutorial. They were spread throughout Indonesia and all of them were English teachers.

Moodle software provides some facilities for the tutor and students such as discussion forums, individual tasks, the grading system and feedback, and other facilities which enable the tutor to upload various kinds of files as well. Moreover, the tutor could link the materials to other electronic sources in order for the student teachers to enrich their own knowledge and skills in this course. The following is the profile of the online tutorial of *Psycholinguistics/PBIS4332* in the period of 2012.1.

The tutor always sent greetings through the forum, and even sent messages to the student teachers personally to motivate them to be active in the teaching and learning process. The online tutorial began with the first initiation where the introduction of the online tutorial is given. In this session, the student teachers are given an overview of the materials as well as the assignments and information on how to communicate with each other. The students had already been given training on accessing the online tutorial at the student orientation event, conducted by ROs before they started studying at UT. The following table outlines the topics discussed each week as well as the record of students’ access during this tutorial.

Figure 1

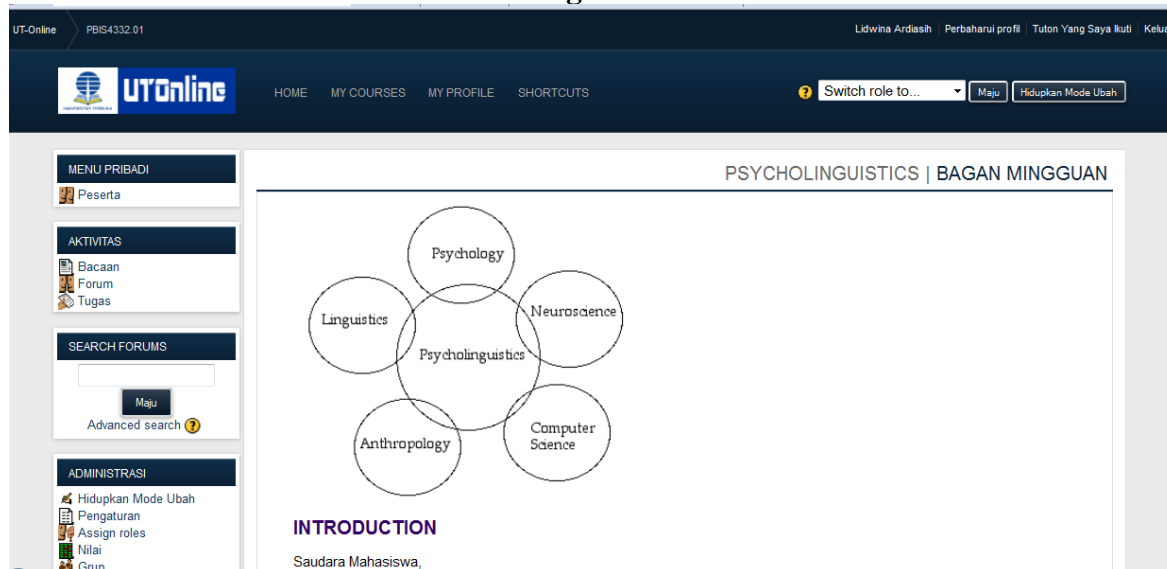


Figure 1. UT's online tutorial on *Psycholinguistics/PBIS4332* (Taken from: *student.ut.ac.id*)

Table 2: The number of students accessing the online tutorial *Psycholinguistics/PBIS4332*

Initiations	Topics	Number of students accessing the initiations	Percentage
1.	The fundamentals and scope of Psycholinguistics	29	59%
2.	Theories of Psycholinguistics	37	76%
3.	Relationships among language, mind, and speech	38	78%
4.	The process of language comprehension and production	32	65%
5.	Language Acquisition (Part 1)	22	45%
6.	Language Acquisition (Part 2)	20	41%
7.	The fundamentals of language as a cognitive system	14	29%
8.	The relationship between Psycholinguistics and language teaching	13	27%

Table 2. The number of students accessing the online tutorial *Psycholinguistics/PBIS4332*

The table shows that the rate of access of student teachers was quite high, with 29 students or 59% of all participants accessing the online tutorial during the first week. Furthermore, the number of students accessing the initiations from the second to the sixth week was more than 40%. The number of students accessing the online tutorial decreases during the seventh and eighth week. It was assumed that they focused on the final examination. From the data, it was found that the number of student teachers actively engaged in the discussion forum was only 19 or 33% of the total. Furthermore, there were 19 student teachers or 28% enrolled in this online tutorial who never accessed it.

The total score for the online tutorial depends on: 1) students' participation including accessing the initiation as well as the discussion forum, and 2) their assignments. This total score will contribute 30% to the final examination. The student teachers were also expected to be able to prepare for the final examination by doing self-directed exercises available online through the website of UT. Moreover, during the tutorial period, the students were given opportunities to communicate with the tutor both through email and the discussion forum. The following are figures 2 and 3 showing the examples of students' communication through the discussion forum.

Although the facilities and tutor's support were available throughout the period of the online tutorial, there were only a few of the student teachers who sent emails or posted their ideas on the discussion forum (as shown in Figure 2). The tutor, however, always encouraged the student teachers to actively communicate with other participants as well as with the tutor.

Figure 2

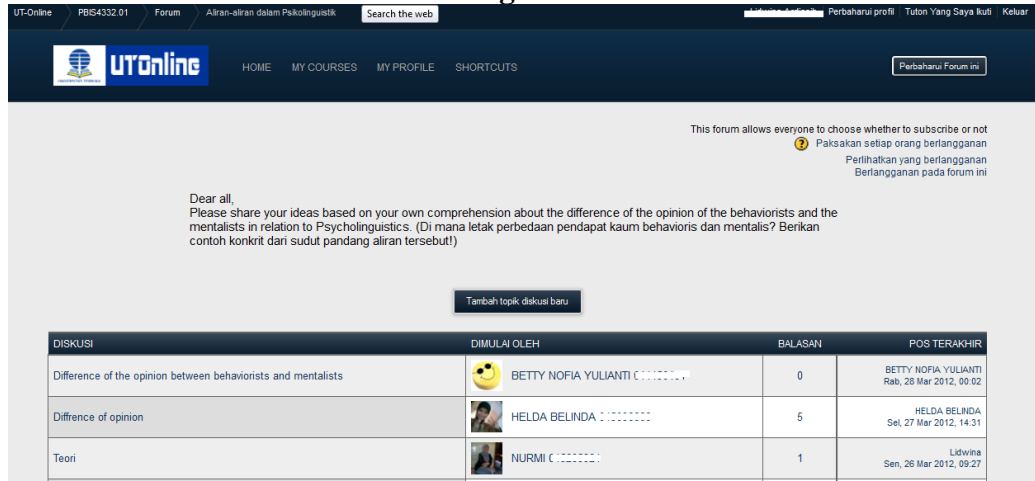


Figure 3

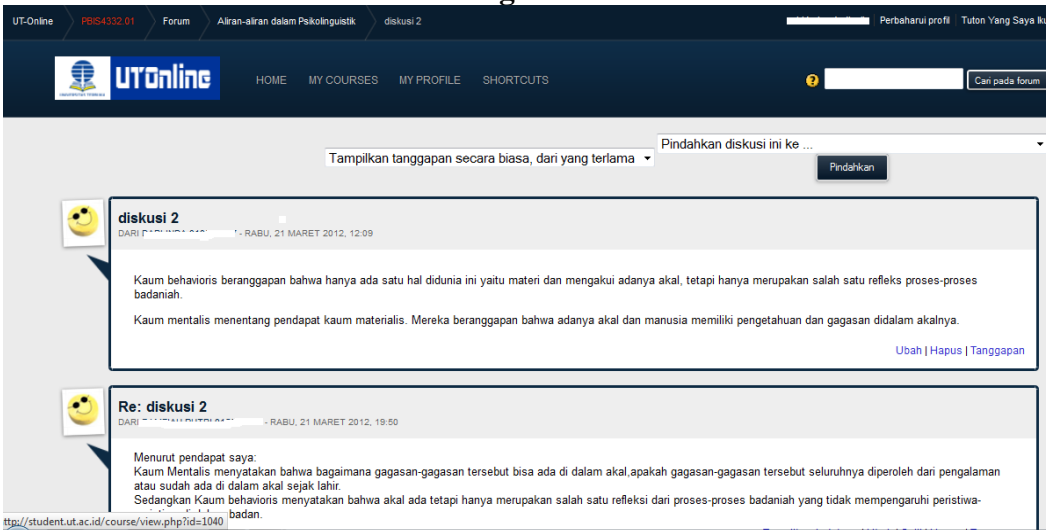


Figure 2 and 3. The examples of student teachers' communication through the discussion forum
(Taken from: student.ut.ac.id)

Figure 3 shows the examples of the comments from the student teachers. The statement “menurut pendapat saya” meaning “in my opinion” has shown the student teachers already applied the concept of critical constructivism. Based on the trigger given by the tutor, they could understand the opinions of different theorists, compare them, and then construct their own ideas from their comprehension.

Beside participating in the discussion forum, the student teachers have to submit the assignments given in the 3rd, 5th, and 7th week. The first assignment, available in the third week, involves reviewing the materials discussed in the first and second initiations. During the third and the fourth week, the student teachers are given opportunities to finish the first assignment and submit it by uploading it on the space available in the online tutorial. It was suggested to the student teachers not to submit the answers for the assignments through email, but to upload them on the space available in the online tutorial. The purpose of this system is to make it easier for the tutor to monitor the student teachers' assignments and give feedback. The data on student teachers submitting the assignments show that there were only 18 student teachers or 37% who submitted all assignments. A few of them submitted the answers to the first assignments only.

Figure 4 is the assignment 1 (Tugas 1) provided by the tutor. There were two items asking the students to compare two different theories, analyze the differences, and present their own analysis. From the activity, we can see if the student teachers are expected to be able to achieve the competencies of explaining a process, comparing things, analysing the words and the sentences as well as creating their own examples. By completing those assignments, the student teachers are expected to be able to gain the knowledge and skills of teaching English to their students as well as mastering the materials about Psycholinguistics. Here we can relate the competencies to constructivism. The competencies to be achieved in this online tutorial utilize a constructivist approach where the students can create their own understandings by

creating their own examples, and so on. Moreover, the student teachers are well prepared to do their final assignments in which the materials are taken from the printed learning materials.

Figure 4

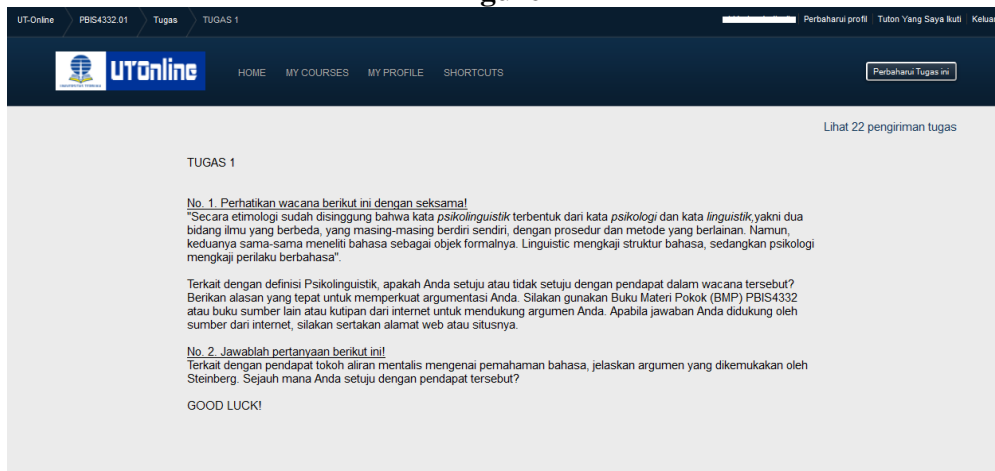


Figure 4. Tutorial Assignment 1: *Psycholinguistics/PBIS4332* (Taken from: *student.ut.ac.id*)

5. CONCLUSION

UT as a higher education institution delivering distance education to over 600,000 students throughout Indonesia has a challenge in giving the best learning support services to its students, including online tutorials. Critical constructivism is one pedagogical approach that is suitable for online tutorials as an E-learning platform. By using the Moodle software, there are many advantages for the tutors and the students. It enables the students to communicate with each other as well as with the tutor in order to gain better understanding of the materials. A small number of students, however, did not actively engaged in the process of learning through online tutorials.

For the online tutorial of *Psycholinguistics/PBIS4332* in the period of 2012.1., the facilities available on the Moodle software supported the interactivity and the collaborative work for the student teachers. Although the tutor had provided them with activities and assignments that support the constructivist approach, only 40-50% of student teachers taking this course actively participated in the online tutorial. Therefore, the achievement of student teachers' competencies was not at its maximum.

Based on the online tutorial process, we can see that there are some possibilities as to why the student teachers did not actively participate in the online tutorials. Firstly, it is possible that the student teachers had problems with accessing the online tutorials if they were busy with their work or if there was no internet connection. Secondly, the students might have difficulties in understanding the materials and did not have courage to share their problems with the tutor or the peers. Therefore, it is the tutor's responsibility to do the research regarding those possibilities, review the materials, and improve the methods of delivering the online tutorial in order for the student teachers to gain better understandings in this course and achieve the competencies. Finally, and importantly, the students' postings on the discussion forum of this online tutorial have shown that they applied critical constructivism.

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