

Students' Perceived Challenge of Integrated Content and Project-based Instruction in Fostering High Order of Thinking Skills

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Abstract: A challenge that lecturers in Higher Education face is accomplishing Graduate Competence standards and building learners' high order thinking skills while implementing comprehensive teaching methods. The researcher addressed this challenge in a qualitative study of some courses that were offered by the English Department of IAIN Ponorogo, namely, Curriculum and Material Development and Research on Language Teaching in a semester or six months. The data were gathered through observation and in-depth interview to the lecturers and students of those two courses, then they were analysed by Miles and Huberman's view of qualitative data analysis comprising three steps namely, data reduction, data presentation, and deduction. The findings showed that the integrated content and project-based instruction encouraged the students to think critically through planning, arguing, stating question and problem investigating, providing solution and creating the product. Furthermore, the findings are significant to provide a framework for educators to implement integrated content and project-based instruction in building students' high order thinking skills.

1 INTRODUCTION

Education is one of the significant aspects affecting State vision. The better future only can be achieved through educational implementation. The involvement of various participants including the government, as a representative, has overpowering obligation to lead to provide a good education for the nation (Quamruzzaman, et al., 2014). Apart from the government's role, teachers also become the main actors for practicing all educational policies and regulations. The 21st-century learning as a global phenomenon has been influencing Indonesian Higher Education like other educational policies and regulations in the world. In this case, education should provide opportunity for the learners for promoting knowledge and skills' transfer. Consequently, an educated individual needs to have the ability to continue learning to cope with the changing circumstances.

Due to the important role of English as a Global Language, it is hardly surprising that ELT plays an important part in many countries as well as in Indonesia. However, the teaching of English in higher education seems to encounter some problems. The problem seems to be an educational scheme that

lecturers, traditionally, practice teaching on the content that must be think rather than the way to think (Schaferman, 2014). Furthermore, the existence of lecturer-centered approaches has been predominant for a long time in Indonesia's EFL context. There was misunderstanding concept on the classroom's instruction that students must construct fixed frame of knowledge. There is no place for questions initiated by students, teachers tends to spoon-feed them, therefore learners have not been accustomed to bear constructive idea.

Facing the 21st century challenge as well as solving the previous problems mentioned, students are required to develop high order of thinking skills /HOTS (Brookhart, 2010; Thompson, 2008), since HOTS supports the students to apply, connect, or manipulate the schemata in order to efficiently solve new predicaments (Thomas & Thorne, 2009).

In the revised Bloom's taxonomy, HOTS is defined as an introductory of the three top cognitive component level encompassing: investigating, assessing, and constructing, as well as three levels of knowledge dimension, namely theoretical, procedural, metacognitive (Anderson & Krathwohl, 2001). Therefore, HOTS is assessed by employing several tasks which comprises scrutinizing, assessing, and constructing the information in the form of

concept, procedure, and metacognition. It indicates that acquainting students with HOTS tasks is essential to support them for acclimatizing themselves in a new environment, as well as finding solution about a certain problematic issue.

Students should be taught about HOTS, through learning activities that deals with its development. Active learning and student-centered learning are considered appropriate accomplishments for HOTS' training (Akyol & Garrison, 2011; Limbach & Waugh, 2010). One of the active learning activities which are proposed is project-based learning. It is defined as a learning model that deals with projects (Thomas, 2014). This learning model is an authentic learning model which leads students to get involved in preparation, investigation, and evaluating projects that have real-world applications (Westwood, 2008). It is one constructivism philosophy in which students are engaged in problem-solving activities (Doppelt, 2003). The quality of learning as well as the development of high order of thinking can be improved through Project-based learning. Moreover, it leads students to be more engaged in learning since they have chance to find the solution of the complex and problematic issues occurred in the real life context. Besides Project-Based Learning, content-based instruction (CBI) is considered appropriate to be applied since it integrates language learning as well as content learning. The CBI approach leads students to improve motivation and their proficiency as well as enlarge cross-cultural knowledge, therefore the students found themselves enjoy the learning process (Stryker and Leaver, 1997). Furthermore, CBI is suitable for enhancing the development of students' language skills, both receptive and productive skills, emphasizing the function of language in real world context (Stryker and Leaver, 1997).

Referring to the result of preliminary research at the State Institute of Islamic Studies Ponorogo (IAIN Ponorogo), it revealed that the fourth semester of undergraduate students is required to take the English Curriculum and Material Development course. This objective of this course is to motivate students to learn critically and keep abreast with current issues concerning the basic principles of curriculum and Syllabus, Curriculum and Syllabus in Indonesia Context, Components of Curriculum, Designing syllabus and lesson plan for SMA/SMP students and Developing materials obtained from various sources such as textbooks and journal articles. It is expected that after this course, students can apply what is being discussed during a course and design their syllabus, lesson plan, and materials in planning their teaching as a good and professional teacher (English

Department, 2017). In order to achieve the objective of this course, the lecturer needs to integrate Content-Based Instruction and Project-Based Learning for empowering the students' high order of thinking skills since CBI is for engaging the learners directly with the material, bypassing the language barrier which place language as a medium of communication rather than an object of analysis (Dueñas, 2004) and Project-Based Learning focused on awkward issues that direct students to struggle with the main concepts and a discipline value (Thomas, 2014).

There are many previous studies related to CBI and Project-Based Learning. Rochmahwati's (2015) qualitative research focused on fostering students' critical thinking through project-based learning. The result of the study showed that the implementation of Project-Based Learning that fosters the students' critical thinking in TEFL class is through the following phases, namely, sharing materials, collaborating in team for constructing scenario of teaching practice, performing the scenario, documenting the teaching practice into video, and reflecting the result of the video product. Moreover, students responded positively on the implementation of Project-Based Learning. Then, the research conducted by Tseng (2015) of implementation of CBI showed that the students present positive feedback not only on the part of the content knowledge but on their improved language abilities. Positive responses were also reported on students' gains from cooperative learning, their boosted confidence and reduced anxiety in the target language use. The next research conducted by Yugandar (2016) entitled "Content-Theme-Based Instruction to Increase the Quality of EFL Class". It revealed that the mix of language components and content knowledge is worthy to support students in the comfortable atmosphere in TEFL class. Referring to the theoretical and empirical data above, it is proven that both CBI and project-based learning is effective for fostering language proficiency as well as critical thinking. Therefore, the researcher is interested in conducting research dealing with the appropriate integration of CBI and project-based Learning for fostering students' high order of thinking skills.

2 THEORETICAL FRAMEWORKS

2.1 Content-based Instruction

CBI is considered as one of the results of Communicative Language Teaching approaches"

(Rodgers, 2001). It is developed on the core principles of a communicative approach, particularly those related to the role of meaning and contextualization in language learning. Brinton, Snow, & Wesche (2003) stated that in CBI, the process of negotiating to mean and practice speaking and writing skills have occurred. It helps them to focus on not only forms but also meaning. Crandall and Tucker (1990) state that this approach emphasized learning the concept of preference to language. It implied that in CBI, teachers use content knowledge as the framework for teaching rather than grammar constructions and word choices. The terms immersion, language-enhanced content learning, two-way bilingual education, and content-based language teaching are the practice of CBI (Kang, 2007).

2.2 Project-based Instruction

Project-based Learning (PBL) is a model for a classroom activity that replace the traditional teaching which applied teacher-centered method (Educational Technology Division, 2006). PBL learning is one of students-center teaching practice which connecting real-world issues and practices. Students initiate questions and they are guided through investigation and teachers have a role as supervision (Baş, 2011). According to Chard, Project-based instruction deals with the inquiry of practical issue that attracts students' attention and stimulates strong effort.

Project-based Learning is important for several reasons. They are (1) It leads students to become autonomous, critical and lifelong learners, (2) it allows students to perform his/her capabilities autonomously since the lecturers have multiple assessment opportunities and (3) It is also recognized that students have various competencies and learning styles (Kubiato and Vaculova, 2011). They explain further that there are four major characteristics of project-based learning namely, firstly, self-awareness for thinking and learning; then, an awareness of social responsibility; the next is that having scientific mind in practice, and dealing with working in group both in process and product.

2.3 High Order of Thinking Skills (HOTS)

HOTS is considered as one of the important constituents for a person to be able to encounter a new challenge in the 21st century (Brookhart, 2010), therefore, the teacher should foster high order thinking skills which are used to think broadly to face a new challenge (Limbach and Waugh, 2018). Students with a high level of higher-order thinking

skills are likely to be more successful persons. They can improve their performance well and decrease their weaknesses (Yee, et al, 2011).

HOTS are consisting of the last three aspects of taxonomy bloom namely investigating, assessing, and constructing (Moore & Stanley, 2010) and three levels of knowledge dimension, specifically, conceptual, procedural, metacognitive dimension (Anderson & Krathwohl, 2001, Thompson, 2008). In other words, the objective of teaching for furnishing students to transfer knowledge and skills as well as apply them during their learning the new topic can be achieved.

According to Wang and Wang (2011), there are three main constituents in HOTS, namely skills for thinking critically, creatively and systematically. HOTS leads students to solve new problems by relating or linking, the preceding knowledge (Thomas & Thorne, 2009). Fostering HOTS activity is very crucial for students since they need support to get accustomed to a new atmosphere and finding solutions for problematic issues.

3 METHODS

This present research employed qualitative approach in which it describes the observed object both verbal and non-verbal words. (Bogdan, and Biklen, 1998). It organizes information related to recent phenomena and it is guide to a determination of a situation as it occurs by the time of the research conducted (Stake, 2010). The design of this research was a case study that deals with on an in-depth and holistic description of a single unit (Ary, et al, 2010), in this case the integration of CBI and project-based instruction for fostering students' high order of thinking skills.

Some courses were offered by the English Department, Teacher Training Faculty at IAIN Ponorogo as the subjects of the research, namely, Curriculum and Material Development and Research on Language Teaching. The result of observation and in-depth interview to the students and lecturer who enrolled on those two courses were analyzed by Miles and Huberman's (1994) concept of qualitative data analysis, namely, reducing, presenting and deducing data.

4 RESULT AND DISCUSSION

The lecturer designed and various teaching activities in integrating CBI and project-based instruction. Based on observation and interview to the lecturer

and students, the implementation of integrated content and project-based Instruction on teaching and learning process can be seen in the provided teaching scenario or lesson plan. It aims at providing lectures with the guiding principle of teaching and learning activities consisting of several component, namely, teaching objective, substantial material, teaching method, media, learning scenario and evaluation (Rochmahwati, 2015). Furthermore, it was revealed that the stages of teaching and learning process were divided into three main steps, namely, introductory, main activities and post activity.

In the introductory step, Content-Based Instruction also developed when the lecturer reviewed previous material in the form of a question. Moreover, CBI also developed when she stimulated students to lead students' attention to the material on the day. She related the students' background knowledge with the topic being discussed at present.

In main activities the teacher applied to start integrating content and project-based learning in the following procedures:

4.1 Start with the Essential Question

The teacher takes a real-world topic and begins an in-depth inquiry. By giving the content or topic which have meaning or relevant in their life. It will encourage them to use the appropriate content language in answering the essential questions. For example, "How can curriculum contribute to the educational program?", "What kind of information do we need to construct a good background of the study?" Such questions lead students to think about their background knowledge and employ appropriate content-language, to present this topic. This idea is in line with Merta et al. (2017: 26) who states that one of the steps to develop the ability to think critically is by teaching through questioning.

4.2 Design a Plan for the Project

In this phase, it is important to involve students in the planning process. Teacher divides the class into several groups, consisting of 4 or 5 students in each group. In Curriculum and Material Development course, they begin discussed how to get references, how to design e-posters, distribution of jobs they will apply. In Research on Language Teaching course, they start discussing, arguing and analyzing which part of provided references will be applied, the procedures for leading them to the compose a good title of a research proposal and how to present in front of the class. In this case, students started browsing,

seeking and locating information on the web, textbook and friends' opinion. That information could also be processed into knowledge when students demonstrated suspicion for the information found, articulation for the known and unknown, and reflection on the meaning the information carried (Colaric & Jonassen, 2001). It is considered to be metacognition as learners actively monitored, regulated and exhibited awareness of their thinking processes (Brem & Boyes, 2000).

The students are encouraged to speak English during designing the planning of their project. In this condition, students feel that the projects were their own when they have an active role in involving of every activity. The observation and interview to the students revealed that they communicated with their group to share resources and to discuss what they had to do to complete the project. Also, they discussed which parts of their task that they had to write and asked each other to find supporting references for their projects.

Students in the group worked on planning, information acquisition, brainstorming, rough drafts, problem-solving, evaluation, and revisions, sometimes individually but more often in a team. Teamwork demanded students to be in charge of their parts, identified the information needed, applied and then communicate ideas to group members. These processes of data manipulation and critical peer assessment in a team involved higher-order thinking. It is in line with McAlpine and Clements' (2001) view that teamwork stimulates higher-order thinking by enabling learners to negotiate, reflect, refine, accept and appreciate the viewpoints of their teammate. Furthermore, social interaction and active participation were desirable ways to facilitate group learning and promote deep learning. It was a sophisticated cognitive skill related to understanding the meaning of materials instead of memorizing and recalling knowledge in surface learning (Newman et al., 1995).

The teacher guides them to design a timeline for project components. This project must be performed in two weeks after it assigned, therefore students must create a timetable to help them finished on the due date. Jor (1995) stated that it is important for teachers to foster the students' high order thinking for processing information and creating their knowledge.

4.3 Monitor Students and Project Progress

The lecturers facilitate the process for learning. She leads students on how to work collaboratively and let

students select their primary roles. Students must be reminded that every part of the project process belongs to them and it is required their total participation including actively involved in applying appropriate language content in doing the project. The lecturer also provide media for consultation both offline in the lecturer's room or online via WhatsApp.

4.4 Assess the Outcome

An assessment provides diagnostic feedback and assist instructors set standards. It gives students feedback on how well they comprehend the information and what they need to do to improve on. In this time, students are assigned to present their project in front of the class and lecturer assessed them based on a scoring rubric for oral presentation. During the presentation, she invited audiences to raise question-related to the topic discussed as well as suggestion and feedback for better project improvement. This activity is in line with Harmer's view (2007) as students' performance makes the students actively involved by presenting and giving feedback.

The observation revealed that the students master on the concept of knowledge both the topic of the Component of Curriculum and Background of the Research as well as their language performance. It supports the research conducted by Tseng (2015) that the implementation of CBI showed the students' positive feedback not only on the part of the content knowledge but also on their improved language abilities.

In the post activity, the lecturer together with the students made deduction deals with the material learned that day. The lecturer made reflection on the learning activities as well as the evaluation.

There were three components involved in the teaching and learning process, namely lecturer; students and method of teaching and learning. They contribute to the successful implementation of Integrated Content and Project Based Instruction in fostering students' High order of thinking skills.

The lecturer has a vital role in the teaching and learning process and he/she is considered as the basic factor in successful learning. The product from students' HOTS development can be attained by the active role of lecturers in assisting students both in planning and implementing teaching and learning process. To be able to plan and implement HOTS-oriented learning, teachers are required to have knowledge of ways, strategies, methods to guide students about HOTS (Bartell, 2012). Referring to the results of observation, a lecturer has good classroom

management. She has abilities to make efficient use of lesson time, to accomplish classroom resources and space, and to manage students' behavior with clear rules. Furthermore, lecturer employed high-quality instruction, effective questioning and use appropriate assessment for fostering students' high order of thinking skills.

Students are important participants in the teaching and learning process. In the implementation of Integrated Content and Project-Based Instruction, students took several roles, that is, an autonomous learner and instructor for other learners.

Some activities underlie the concept of Content-Based Instruction and Project-Based Instruction such as Starting with the Essential Question, Designing Plan for the Project through group discussion, being an instructor to their friends and oral presentation constitutes an excellent way to promote active involvement and higher-order thinking skills. In this case, students do not follow strict guidelines but they are lead to improvise. Moreover, they are guided to find the solutions to the problems they encounter, to find alternative methods to fulfill a task, to collaborate, to take risks, to develop effective communication skills, to appraise themselves and their peers.

5 CONCLUSIONS

The finding of the study is that integrated content and project-based instruction, as implemented in the content courses, encouraged the students to develop their high order thinking skills through planning, arguing, stating question and problem investigating, providing solution and creating the product. Then, the part of the content knowledge, as well as language ability, are improved well. Furthermore, the role of teacher, students, and teaching method are considered key factors influencing the successful implementation of integrated content and project-based Instruction.

In essence, I encourage future studies to explore another potential of Content-Based Instruction and Project Based Instruction practices particularly from more varied viewpoints and backgrounds to enhance EFL students' language learning.

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