Realization of Teachers' Questions to Uncover Students' Cognitive Domain of English Subject Matter in Classroom Interaction

Anita Rizky Kurniawati[1✉],Sri Wuli Fitriati[2]

[1] STIKES HAKLI SEMARANG

[2] Universitas Negeri Semarang, Indonesia

Article Info

Abstract

When teachers conduct a lesson, the activity of posing questions always appears in it. The activity of posing questions includes the skills of asking cognitive level of questions in which a teacher must acquire. This study was undertaken in order to investigate the teachers' questioning skill in asking cognitive level of questions during the teaching learning activity. Questioning which can reveal students' mastery in the English subject matter was analyzed. In conducting the questioning, the purposes of the questions when they posed the questions and the ways the teachers keep their students active in responding their questions are also discussed. This discourse study was based on the analysis of the teacher talk in class. The analysis was based on the recorded data of the four English teachers when they conducted lessons in class. To collect the data, I used video recording, field notes, and interview. The recorded data was transcribed. From the transcription, the way the teachers ask question in asking cognititve level were analyzed based on the revision of Blooms Taxonomy (2001) and the way the teachers keep their students active in responding their questions were analyzed according to the questioning techniques proposed by Jacobsen (1999). Then, the data from interview were transcribed and the data from field notes were analyzed qualitatively. The findings show that the teachers posed all of the types of cognitive level of questions for various ways. Remembering questions were done to asses the extent to which students' background knowledge were. In the understanding level, the questions train the students' understanding to convey the information by using their own words. In the analyzing level, the questions require the students to use their analysis to solve the problem and use their logical reasoning to the question given. In the evaluating questions require the students to state the reason and think critically. In the creating question level require the students to create an original product based on the information given where they are driven to think creatively and critically. Related to the teachers' purposes in posing the question, there are seven major points of the teachers' purposes in posing question. Finally, the result is related to the way the teachers keep the students active in responding the questions. The teachers used all of the questioning techniques. They are redirection, probing, prompting, wait-time and rephrasing. It can be concluded that the teachers use all types of cognitive level of questions both for low level and high level questions. Although almost all of the questions delivered by the teachers is low level questions but the teachers has tried to give more high level questions.

✉Correspondence Address:
JalanPamularsih Raya Semarang
E-mail: anitawati74@yahoo.com

INTRODUCTION

Fundamentally, one of the purposes of language teaching is to make the students able to communicate in target language. Therefore, it is expected that teacher can give the students sufficient exposure to the target language during the lesson by encouraging the students to participate and to get involved more.Unfortunately, the expected active interaction desired rarely occurs during teaching and learning process due to the less motivation to participate possesed by the students, especially in Indonesia.Teacher's domination in classroom interaction can discourage students to participate and speak more in the target language. Moreover, studies made by Daniel (2006) confirm that students have difficulties using the language and in interacting in the classroom.

One of the important roles to play by the teacher in the classroom is as the initiator and sustainer of interaction. According to Brown (2001), the most common way or strategy to initiate the classroom interaction is by asking questions to the students since questioning is one of the best ways to develop teachers role as an initiator and sustainer of interaction. By asking questions, the students are expected to actively give responses to the questions being asked to them since every question that the teacher gives to the learners needs an answer or responses from the learners. Then, there will be active interaction and communication established between teacher and students when the students give answer.

Tollfeson (1989) postulates that asking questions in English classroom requires knowledge of the questioning skills. It means that teachers should have a good knowledge of questioning skill in their classroom.Thus, we cannot ignore that having questioning strategies are very important for teachers and students. It will help a teacher to plan questions and answers session effectively. Harvey (2000) states that questioning strategy is most effective when it allows pupils to become fully involved in the learning process. Therefore, it is absolutely vital

for the teacher to direct their instruction at a clear and specific goal. They should understand how, why and when they pose questions to their students. So that it can enhance students participation in the learning process. There are many types of question that can be applied by the teacher as a teaching strategy. According to Grabowski (1996) different types of questions require different levels of cognitive processing and learning.

In the past 15 years, it has been found through the research that questions may be classified into levels. These levels have been developed into hierarchy as stated in the revision of Taxonomy of Bloom (2001). It concerns on the simpler cognitive abilities to more complex cognitively. Six types of question defined by Bloom is a way to increase student learning by using a starting question to gradually increase the cognitive learning of a student.Relating to those explanation, I am interested in applying Bloom taxonomy, especially for the cognitive domain, to analyze teachers' questions in English classroom interaction. In teaching learning process, the teachers need to know the ability of the students and how far the students understand the material which has been taught. Thus, by applying cognitive level of questions, teacher can investigate the students mastery of the knowledge in comprehending the lesson. Moreover, by analyzing the teachers' questions in the teaching learning procss, we can make better understanding to what extend that questions can give the opportunity of better understanding about the subject matter or the lesson

Departing from the explanation above, the main concern of this study is the discussion about teachers' questions in asking cognitive level of questions during the teaching learning activity. Questioning which can reveal students' mastery in English subject matter will be discussed. The discussion of the teachers' questions was based on a revision of Bloom's taxonomy adopted from Anderson and Krathwohkl (2001). It is expected to be able to know the way the teachers ask questions in order to test students' knowledge including six

levels of cognitive domain of Bloom's taxonomy. The components are remembering, understanding, applying, analyzing, evaluating, and creating. In addition, I investigated not only the teacher questioning skill in asking cognitive level of questions but also the purposes of the questions when they posed the questions and the techniques that they used to keep their students active in responding their questions.

Bloom's Cognitive Taxonomy

There are six levels of Bloom's Taxonomy and questions at each level require the students respond to use a different kind of thought process. Below are the explanations of each type of question in the latest revision of the Bloom's Taxonomy from the lowest to highest level.
(1) Remembering

This is the first and also the lowest level of taxonomy. In this level, the students are expected to answer kind of question by remembering the information, recalling or recognizing the idea, material or phenomena. During this time, students are not asked to manipulate information but merely to remember it just as it was learned.
(2) Understanding

In the understanding level, the students need to be able to grasp the essential information in the communication and also convey the information by using their own words. Commonly, the activities in understanding question are interpreting, summarizing, paraphrasing, classifying, and explaining.
(3) Appying

In this third question level, the students need to apply the information. It means that the students use the information that previously learned to solve the problem in the new case.
(4) Analyzing

Analysis means process of reducing a complex topic or substance into smaller parts to gain better understanding. To answer this type of question, the students need to be able to use their higher critical thinking. It requires students to think critically and comprehensively. They need to breakdown the information, identify the

relation of parts of the information and also make a conclusion.
(5) Evaluating

Evaluation questions belong to a higher order type of question. Similar to analyzing questions, this kind of question does not have one correct answer. To answer this kind of question, students are provided with sets of ideas, problems or situations. Then, they are asked to state their opinion to make a judgment on the ideas, problems or situations.
(6) Creating

Creating is the highest level of questions that ask students to perform original and creative thinking. These kinds of questions require students to produce original communications, to make predictions, and to solve problems. Although applying questions also require students to solve problems, creating questions differ because they do not require a single correct answer but, instead, allow a variety of creative answers.

METHODS

In this research, I used qualitative method to study the problem. In the discussion of qualitative research there are some types of study. One of them is the study on document analysis. The document analysis is a study which focuses on the analysis and interpretation of written, recording, and notes. Discourse analysis is one of the types of the study in the document analysis. In this study the discourse analysis focuses on the analysis and interpretation from recording data.In this study, I investigated the teacher questioning skill in the form of teachers talk and interpreted within the classroom discourse.

In this study, there were four participants as the subjects of the study. They were four English teachers of SMPN 13 Semarang who were observed. The object of the study is the teachers questions skills in asking cognitive level of questions during the teaching learning activity. Questioning which can reveal students' mastery in the English subject matter was discussed. The discussion of the teachers'

questions was based on a revision of Bloom's Taxonomy. It is expected to be able to know the way the teacher ask questions in order to test students' knowledge including six levels of cognitive domain of Bloom's taxonomy. In conducting the questioning, the reason why the teacher posed the questions and how the teachers keep their students active in responding their questions are also important so they are also the object of the investigation too.

The unit of analysis of the study is the teachers' questions in asking cognitive level of questions which were conducted by four English teacher in SMPN 13 Semarang. Each cognitive level of question was analyzed based on the revivion of Bloom's Taxonomy (2001). In addition, I investigated the purposes of the questions when they posed the questions which were analyzed based on the classification of Brown and Wragg (2003). Furthermore, to know how do the teachers keep their students active in responding their questions were analyzed according to the questioning techniques proposed by Jacobsen (1999).

To collect the data from this study, I employed several instruments. They were classroom observation, interview and field notes. After the data are collected, they are analyzed. There are four steps used in methods of data analysis. First, it was the process of transforming spoken data into written form. The first and the second turns of the teachers' performances were transcribed. Next, it was identifying the data. In the process of identification, teachers' talk and the students' talk were separated. All of the teachers' talks from the transcription were identified, and then they were used for the next process of classifying. The next step is classifying. In this step, the teachers' talk in asking questions were classified according to the six levels of cognitive domain. The classification of the cognitive level of questions based on a revision of Bloom's Taxonomy (2001). Then, their talks were classified according to the questioning techniques proposed by Jacobsen (1999) to analyze how the teachers keep their students active in responding their questions. And the last one, to answer the purposes of the

questions when they posed the questions was analyzed based on the classification of Brown and Wragg (2003). The last step is I drew an inference.

The findings of the data analysis will be cross-checked by using triangulation. In this study, I used the triangulation of methods. In this type of triangulation, three instruments of collecting the data were employed, those were video recording, classroom observation, and interview.

RESULT AND DISCUSSION

I found that the teachers use all types of questions both for low level and high level questions. In all of the classes, the level of question dominating the teaching and learning process is the low level question which is the understanding level. Related to the teacher's purposes in posing the question, there are seven major points of the teachers' purposes in posing question. Finally, the result is related to the questioning techniques used by the teachers. The teachers used all of the questioning techniques. They are redirection, probing, prompting, wait-time and rephrasing.

Types of Question Level in the Teachers' Teaching

The findings shows that the teachers posed questions at remembering level were for various ways. It served as lead in parts to the lesson, to review the previous meeting's topic, to recall students' knowledge on a certain topic being discussed, and to direct students' attention to classroom activities. All of the remembering questions asked here were done to asses the extent to which students' background knowledge were, before the teacher posed the subsequent higher level questions.

In the understanding question level, the teachers posed questions at this level were for various ways. It served to check the students understanding of the material being discussed, to elicit the students' answer in their own word in explaining the material being discussed, to check the students' understanding in constructing

meaning of the learned lesson, and to check the students understanding in translating the meaning from English into Indonesian on the material which is being discussed. All of the understanding questions asked here were trains the students' understanding to convey the information by using their own words which has been discussed before.

Next, in the level of applying, it is inferred from the obtained data that the teachers posed questions at this level were for various ways. It served to attract students' attention and get them interested in applying a procedure in a given situasion, to encourage the students to be able to think creatively and critically, and to encourage discussion among the students in finding some issues related to the material given. In asking the applying questions level here, the students should use the information that previously learned to solve the problem in the new case.

In the analyzing question level, the teachers posed questions at this level were for various ways. It served to stimulate the students to think critically by analyzing an information given, to engage in discussions to analyze the text given by the teacher, to determine a point of view of presented information, and to determine how the information given relate to one another. All of the analyzing questions asked here require the students to use their analysis in finding out the information that is asked by the teacher, solve a problem through the information given, and use their logical reasoning to the question given.

Meanwhile, in the level of evaluating, it is inferred from the obtained data that the teachers posed questions at this level were for various ways. It asked the students to think critically in order to elaborate their opinion about the topic which is being discussed and to make a judgement about an argument based on the students criteria and standard. All of the evaluating questions asked here require the students to state the reason and think critically in order to consider whether the argument which is being discussed is appropriate based on their criteria.

Finally, in the creating question level, it is inferred from the obtained data that the teachers posed questions at this level were for various ways. It served to produce a creative thinking in making a sentences by using the student own words, to develop the answer from the previous information, and for devising a procedure in accomplishing a task given by the teacher. All of the creating questions asked here require the students to create an original product based on the information given. By using this kind of question, the students are driven to think creatively and critically.

Purposes in Posing the Questions

Related to the teacher's purposes in posing the question, it can be concluded that there are seven major points of the teachers' purposes in posing question. Those are (1) to asses the extent to which students' background knowledge were and recall lessons taught earlier, (2) to attract students' interest immediately and bring about the feeling of curiosity among students, (3) to assess students' understanding of what the teacher has taught, (4) to stimulate students' thinking skills, (5) to encourage students to think creatively and critically, (6) to engage in discussions to solve a problem and investigate it further, and (7) to promote discussion among members in a group while they were engaging in the same activity.

The results show that seven purposes found in this study, consistent with the literature reviewed by the researcher. These seven purposes which emerged from the data in this study were mostly in line with the teacher's purposes categories presented by Brown and Wragg (2003)

According to Richard and Lockhart (1994), questions may encourage students to think and focus on the content of the lesson. Questions can enable teachers to check students' understanding and mastery of grammar and the content of texts. In a word, enhancing students' language learning is one of the important purpose of teacher questioning. This study also concludes that the main purpose of teachers'

questioning is to improve students' language learning.

Questioning Techniques

Finally, the result is related to the questioning techniques used by the teachers. I concluded that the teachers used all of the questioning techniques. They are redirection, probing, prompting, wait-time and rephrasing. The teachers applied redirection strategies several times since it can makes the students keep pay attention of the teacher's lesson explanation. The use of wait time by the teachers makes the students able to think more, for they have sufficient time to think. It is important because the ability of each student to catch the ideas or questions is different. In wait-time students also can emerge their memories and find the appropriate answers. From the data showed that the observed teacher used wait-time a lot. Then, the use of probing technique as a way of supporting and developing students' thinking skill. Furthermore, the use of rephrasing by the teacher to make the students understood of their questions. They used them when the students did not catch their questions because of the long questions, so they used short questions with clear words. The technique of phrasing was mostly applied in the examples above is by constructing the simple and clear questions orally. The use of prompting by the teachers help the students to get the right answer by helping him/her through a series of questions or by giving a clue. According to the result of the data, the teacher apply all techniques of questioning during the classroom activities.

CONCLUSION

The result of the study shows that the teachers posed all of the types of cognitive level of questions for various ways. Remembering questions were done to asses the extent to which students' background knowledge were. In the understanding level, the questions trains the students' understanding to convey the information by using their own words. In the analyzing level, the questions require the

students to use their analysis to solve the problem and use their logical reasoning to the question given. In the evaluating questions require the students to state the reason and think critically. In the creating question level require the students to create an original product based on the information given where they are driven to think creatively and critically. Related to the teacher's purposes in posing the question, there are seven major points of the teachers' purposes in posing question. Finally, the result is related to the questioning techniques used by the teachers. The teachers used all of the questioning techniques. They are redirection, probing, prompting, wait-time and rephrasing.

From this study, it can be concluded that the teachers use all types of questions both for low level and high level questions. In all of the classes, the level of question dominating the teaching and learning process is the low level question which is the understanding level. Although the result of the data shows that almost all of the questions delivered by the teachers is low level questions, actually the teachers has tried to give more high level questions but the students still have difficulties to answer. The future study is expected to conduct further studies on classroom questioning to investigate the problems in detail and their solutions in relation to the language classrooms. Thus, looking into classroom questioning in particular can provide useful information concerning the problems related to classroom questions and the effectiveness of teachers' questions that are planned for a lesson.

REFERENCES

Anderson, L, & Krathwohkl, D.R. (2001). *A Taxonomy for Learning, Teaching and Assessing: A revision of Bloom's Taxonomy of Educational objective*s. New York: Addison Wesley Longman.

Bloom, B. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals: Cognitive Domain*. New York: Longman Green.

Brown, G., & Wragg, E.C. (2003). *Questioning*. London: Routledge.

Daniel, E. (2006). *Classroom Interaction and Its Influence on the Development of Trainees' speaking skills in English at 10 + 1 Level in Technical and Vocational Training Institute*.

Grabowski, B. L. (1996). Generative Learning: Past, Present, and Future. In D. H. Jonassen (ed.). *Handbook of Research for Educational Communications and Technology*. New York: Simon and Schuster Macmillan.

Harvey, S. (2000). *Strategies That Work: Teaching Comprehension to Enhance Understanding*. Ontario: Stenhouse Publishers.

Jacobsen, D.A. et al. (1999). *Methods for teaching* (5th ed.). New Jersey: Prentice Hall.

Richards, J.C., & Lockhart, C. (1994). *Reflective Teaching in Second Language Classrooms*. Cambridge: Cambridge University Press.

Tollfeson, J.W. (1989). A System of Improving Questions. *Forum*, 27, 45-70.