

## QUESTIONING TECHNIQUES AND HIGH ORDER THINKING IN STUDENTS LEARNING GROUP

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### **Abstract**

Questioning is an essential strategy for effective communication. This study examined questioning techniques used by students and the Critical thinking processes involved in questioning. There was also an attempt to find out the differences between the patterns of using questions between the two groups. Data were sourced from student learning group through audio and video taping the sessions and were analyzed using types of questioning. Findings indicated that students asked higher order in level questions such as open - ended, interpretive, and evaluative, inquiry, inferential, and synthesis, while most students raised lower cognitive questions including facts, closed, direct, recall, and knowledge type questions. It is suggested that using higher level questioning technique, more frequently used by teacher as more competent speakers in comparison to students, can foster learning and students are required to attend higher levels of questioning techniques to enhance their speculative, inferential and evaluative thinking ability

**Keywords:** questioning techniques, high order thinking, learning group

### **Introduction**

Questioning is an essential strategy for effective communication and instruction in academic settings. There is no conversation without questions, unless one wants to indulge in a monologue (Wallace, 2003). Asking the right question shows not only the questioner's skill in language and social interaction, but also it reveals the extent to which the questioner is involved in the critical thinking process related to the topic. Kachru & Smith (2008) state that by asking a question, the way a questioner thinks is revealed. In the same token, Postman (1992: 140) contends that "All our knowledge results from questions, which is another way of saying that question-asking is our most important intellectual tool". In the field of language studies, various definitions can be found for the concept of "question". The dictionary of applied linguistics, for instance, defines this term as "an utterance that is addressed to a listener or reader and asks for an expression of fact, opinion, belief, etc." (Richards & Schmidt, 2002: 456). The dictionary of Cambridge, defines a question as "to express doubts about the value of something or whether something is true". Based on these definitions a question can be regarded as either a linguistic expression for information requesting, or a request itself to make sure about something which is made by such an expression.

In other words, by asking questions, the questioner reveals his or her thoughts, or inquires about others' thoughts, which may not be revealed without engagement in this conversational act.

Although educators are aware of the importance of questioning techniques, these techniques may not be systematically and comprehensively introduced in teacher preparation program. This paper is offered as a resource for those teacher educators who plan to offer a course regarding questioning techniques.

This study aimed to examine the questioning techniques used by teacher and students and the high order thinking processes involved in questioning while participating in interactions in academic such as question sessions, presentations and learning report. There was also an attempt to find out the differences between the patterns of using questions between the two groups. More specifically, this study was carried out to answer the following research questions: What questions and questioning techniques are used by students and teacher in academic and What high order thinking processing are involved in students and teachers' questions?

## **Literature Review**

### **Question**

A question is defined as an utterance that is posed in the form of an interrogation or has a grammatical form which seeks to find out some information about a student's knowledge or thinking (Chin, 2007). Socrates recognized the importance of questioning as early as the fifth century BC (Ellis, 1993; Harrop & Swinson, 2003; Overholser, 1992). When Socrates taught he did not answer students' questions by providing direct answers (Moore & Rudd, 2002), instead he posed further questions to place the responsibility of thinking on the students. This technique became known as the Socratic Method and required students to be active thinkers rather than passive listeners. The Socratic Method of questioning seldom requests factual information but persuades and permits students to express their opinions and explore the rationale for their responses (Overholser, 1992). Questioning should challenge students to think critically and creatively (Ellis, 1993; Wilen, 1991), stimulate student participation, arouses student interest (Wilen, 1991), identify student abilities (Ellis, 1993; Wilen, 1991) and misconceptions, confirm students' understanding of the material being taught and allow students to apply new knowledge.

### **Questioning techniques**

The term "questioning technique" was referring to various procedures teachers used in the classroom by asking different kinds of questions in different ways to meet the objectives of the curriculum. Previous research has documented the role of questioning in educational settings. In the field of applied linguistics, which encompasses the scope of the present study, questioning techniques have mainly been studied from two perspectives: sociolinguistics (Carlsen, 1991) and psycholinguistics. These studies have revealed that questioning can be used to make distinctions between passive and active students (Wilen, 1987), to prepare students for having the ability of self-questioning mechanism (Huang, 2005) and to make

students think critically (Dumteeb, 2009) and meta-cognitively (Wilson and Smetana, 2009) Asking the right question is central to effective communications and interactions. By asking the right questions in a particular situation, can enhance a whole range of communications skills: for example, we can gather better information and learn more; we can build stronger relationships, manage people more effectively and help others to learn too. Some of the most common questioning techniques are as follows:

1. Open and Closed Questions

Closed questions usually need a single word or very short, factual answer. For instance, "Do you know English?" The answer is "Yes" or "No". Open questions, however- that normally begin with what, why, how- need longer answers. An open question is often used to elicit respondents' knowledge, opinion or feelings. They may begin with expressions such as "Tell me", "describe" and "elaborate".

2. Funnel Questions

This technique involves starting with general questions, and moves into more detailed point in each answer. Examples of such technique are used by investigators and detectives taking a statement from a witness. These question types are useful tools to gather information and narrow down to come up with a decision or conclusion.

3. Probing questions

Probing questions are good tools to gather detailed information. These are used to clarify doubts or misunderstandings and help to drawing information from people who are hiding something. For example, "What exactly do you mean by X?"

4. Leading or reflective questions

Leading questions are used to lead the person whom you are talking to. This leads the speaker to give you answers, while they know that you are giving them a choice.

5. Rhetorical questions

Rhetorical questions aren't really questions at all, in that they don't expect an answer. They're really just statements phrased in question form: "Isn't this building so beautiful?"

Bloom's Taxonomy (Bloom et al., 1956; Hannel, 2009) divides learning objectives into three domains: cognitive, affective, and psychomotor. The cognitive domain includes six hierarchical categories: knowledge, comprehension, application, analysis, synthesis, and evaluation. Sanders' (1966) Taxonomy divides cognition into seven hierarchical categories: memory, translation, interpretation, application, analysis, synthesis, and evaluation. These Taxonomies are based on the verbs that describe learning objectives and have been criticized for being too narrow to allow for an accurate measurement of each level (Riegler, 1976; Gall, 1970). Therefore, we propose Cunningham's Five Levels of Questions (1987). The lowest level of questioning emphasizes rote memory and the answer to the question is predictable. The middle level of questioning is convergent and is divided into low and high levels. Low-convergent questions require students to put facts together and construct a response using comparing, contrasting, generalizing, transferring form, or explaining. High-

convergent questions require students to look for evidence to support the answer, give reasons for behaviors or outcomes, and draw conclusions.

### **The Nature of Higher Order Thinking**

Higher order thinking includes critical thinking, problem solving, decision making, and creative thinking. According to King, thinking does not occur spontaneously but must be “evoked” by “problems and questions” or by “some perplexity, confusion or doubt.” It is important to teach students to think about their own thinking processes. Higher order thinking skills include critical, logical, reflective, metacognitive, and creative thinking. According to King, the ability of higher order thinking skills are activated when individuals encounter unfamiliar problems, uncertainties, questions, or dilemmas. When these skills are nurtured and well developed, one can perform better during explanations and making decisions as well as grow their intellectual skills. Development of higher order thinking skills, relies on their lower level thinking skills thus making higher order thinking skills grounded with lower level thinking skills. To be able to think critically, prior knowledge of subject matter content is necessary. as well appropriate teaching strategies and learning environments facilitate their growth as do student persistence, self-monitoring, and open-minded, flexible attitudes. This is not the scenario that is happening in Indonesia. Students are having trouble to use their thinking skills. reviewed that are we clear of what our teachers are supposed to do in the classrooms which then implies to the current problem at hand which is, are teachers unable to create students that can think critically and creatively in the classrooms as well as in real life situations.

### **Definition of Learning Group**

A collection of persons who are emotionally, intellectually, and aesthetically engaged in solving problems, creating products, and making meaning—an assemblage in which each person learns autonomously and through the ways of learning of others. By group, we refer both to the learning of individuals that is fostered by being in a group and to a more distributed kind of learning that does not reside inside the head of any one individual. Rather than focusing only on what the individual knows, the goal is to build a collective body of knowledge; learning groups strive to create publicly shared understandings.

By learning, we refer to the learning processes and outcomes involved in solving problems and creating products that are considered meaningful in a culture (Gardner, 1983). Rather than focusing on discrete bits of information that can be produced via simple-answer questions, this type of learning is situated in real-world problem solving and engages students cognitively, emotionally, and aesthetically.

### **Research Method**

The participants comprised students and teacher who do the learning presentation. Students were second grade of senior high school in Medan. Data were collected from teaching learning process during the students do the presentation. A qualitative research design was employed to investigate questions and questioning techniques used by teacher and students. Data were collected through audio and video taping all

the presentation sessions. Upon completion of data collection, the analysis began by reviewing all the recorded sessions and spotting the instances of “questions” in the data. All the questions used in the verbatim were classified, coded and analyzed using the criteria for analysis shown in figure (1). The coding scheme applied in this study was proposed by Bloom (1956). As stated earlier, the taxonomy consisted of six cognitive levels involved in questioning process. Based on this scheme, participant’s questions were grouped and assigned to 6 categories briefly clipped as: Kn (knowledge), Co (comprehension), Ap (application), An (analysis), Sy (synthesis), and Ev (Evaluation).

## Discussion

Based on the result of analysis the types of question that the students and teacher used, a total of 55 questions were identified in the data. Students asked 30 questions, comprising 40.3% of the whole items, while teacher, raised 15 questions, comprising 59.5% of the overall questions in the corpus. The three most frequently used questions by students were knowledge (36.1%), comprehension (19.1%), and analysis (14.8%), whereas evaluation (19.6%), comprehension (14.5%), and knowledge (12.9%) level questions were the three most frequently items by the teachers. Questions corresponding to “application” level comprised the least frequently used items (6.3 % and 4.1%) by teacher and students, respectively.

## Conclusion

This study reviews the importance of questioning techniques and high order thinking that make the students are able to think creative and critically and to be prepared when using the types of questions. What becomes evident from the above results is that both students and teacher use various types of questions representing different levels of thinking in their interactions to solicit information from the addressees; however, the frequency of the use of questions indicates some dissimilarity between the two groups of interactants. One major difference is that teacher who represented high-competent users of language in this study, predominantly use questions that belong to higher-order processing in the suggested taxonomy. Students, on the other hand, who represent low-competent speakers of language in this study, mostly ask questions that signal lower-order cognitive processing as stated in the taxonomy. It is suggested that using higher level questioning technique, more frequently used by teacher as more competent speakers in comparison to students, can foster learning and students are required to attend higher levels of questioning techniques to enhance their speculative, inferential and evaluative thinking ability.

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