# EFFECTIVE QUESTIONING IN TEACHING: IMPORTANCE AND QUESTIONING TECHNIQUES

**U. W. M. R. Sampath Kappagoda**

*Department of Business Management*
*Faculty of Management Studies*
*Rajarata University of Sri Lanka, Mihintale*

## The Concept of Questioning & Its Importance

"Question", as cited in the Oxford Advance Learner's Dictionary (1999), is a sentence that asks for information, a matter or an issue, which is or needs to be settled. The art of asking questions is one of the basic skills of good teaching. Questioning is perhaps one of the most often used teaching techniques, and as argued by certain experts use of questions is one of the most important of all teaching techniques.

Questions play an important role in teaching. Through the art of thoughtful questioning teachers can extract not only factual information, but also help learners in connecting concepts, making inferences, increasing awareness, encouraging creative and imaginative thought, aiding critical thinking processes, and generally helping learners to explore deeper levels of knowing, thinking, and understanding.

It can be used during a class to stimulate thinking, assess student progress, check on teacher clarity, motivate students, maintain classroom control, provide repetition, emphasize key points, and many more things. Well-phrased questions raised timely can capture students' attention, arouse their curiosity, focus upon important points or even occupy a student's thoughts

after class has ended. It reveals student perceptions and comprehension of the material, attitudes about the materials and the level of experience with the topic being presented.

Questions tell you that your students can understand and think about what you say. If you begin to talk at higher speed, students will stop understanding, thinking and will not ask questions. Questions tell you whether your class is asleep or awake. If encouraged, students will ask questions about concept they do not understand. These questions give you immediate feedback when you are unclear, and tell you where you need to spend more time.

Questions, at many times, reveal misconceptions and misunderstandings that must be addressed for teachers to move student thinking forward. In a classroom discussion or debate, questions can influence behaviors, attitudes and appreciations of students. Questions can effectively be used to control talkative students from one end or draw silence students into the discussion on the other, to move ideas from the abstract to the concrete, to acknowledge good points made previously, or to elicit a summary. When practiced artfully, questioning can play a central role in the development of students' intellectual abilities.

Questions are crucial to learning. Questions not only elicit responses, they also provoke further questions. The asking of question is one of the basic ways by which the teachers stimulate student learning. Asking, working with and answering questions are at the heart of facilitating learning. Much teaching does not work because it consists of answering questions, which the learners have not asked.

Helping them to learn to ask good questions for themselves will help them to continue to learn. Questions, which are used to

achieve well-defined educational objectives, help emphasize the process of learning. Questions are hindrance to student learning when poorly employed by the teacher.

## Levels and Types of Questions

Different types of questions have their respective and appropriate uses. Questions need to be framed with a view to their purpose. On the other hand, it should be appropriate to the learner's level of knowledge. The teachers should have the perception to select the appropriate types of questions when they are teaching. The types of questions and manner in which questions are asked have a direct impact of the effectiveness of the questioning.

Given the important role of questions in teaching and learning, the educational psychologist Benjamin Bloom developed *Bloom's Taxonomy* in 1956. This taxonomy of Cognitive Domain, a classification system for cognitive abilities and educational objectives can be used as a method for collecting evidence about our own questioning strategies. It can be used as a framework to analyze the questioning strategies. Since its inception, Bloom's Taxonomy has influenced curriculum development, the construction of test questions and our understanding of learning outcomes. It has helped teachers to match the questions they ask with the type of thinking skills they are trying to develop, and to otherwise formulate or clarify their instructional objectives.

### *Lower Level and Higher Level Questions*

Bloom grouped these behaviors into six categories that ascend in their level of complexity from: (1) Knowledge, (2) Comprehension, and (3) Application at the lower levels to: (4) Analysis, (5) Synthesis, and (6) Evaluation at the higher levels.

These categories provide a framework for classifying questions that prompt students to engage in these different thinking behaviors, and thus a tool for reflecting on our own questioning strategies used in teaching.

Advanced planning of the teacher is required if this educational objectives to be successful. Key questions have to be planned in order to provide structure and direction for the students. It is necessary to decide in advance the concept upon which the questions will be based and the purpose of each questions should pertain to material, which is fundamental to the concepts or principles being thought. It is an important to determine what level of educational objectives to be achieved and where in the teaching the questions will be asked before formulating the actual questions. The teacher must be aware of the types of questions which can be posed, the cognitive level to which they relates, and when to use each types of questions for the success of this process.

Lower level cognitive questions evaluate student knowledge and comprehension through review and summarization techniques and thus give a good feed back on student learning. High-level cognitive questions encourage critical thinking, problem solving and stimulate student to assume greater responsibility for seeking information on their own. While it is important to utilized questions of all cognitive levels, the grater proportion of questions should aim to develop the cognitive skills of application, analysis, synthesis and evaluation.

Factual recall questions require specific information and may be used to test mastery of basic information and to construct a discussion. At the simplest level this kind of questions is often associated with such word as define, recall, write, repeat, record, list, identify, measure etc. Comprehension questions require the student to demonstrate understanding in

addition to mere recall. They are often associated with such word as restate, discuss, recognize, explain, express, identify, locate, report, review, justify etc.

Application questions require the use of the concept or principle in a context different from that in which it was learnt. It is often associated with such words as translate, interpret, apply, demonstrate, illustrate, employ. Analysis question determine whether ideas are similar or dissimilar, unrelated or contradictory. Distinguish, analysis, differentiate, appraise, calculate, experiment, test, compare, contrast, criticize, inspect, debate, question, relate, solve, examine are the most commonly used words in this level.

Synthesis questions put ideas together in a new way to formulate hypotheses, plan courses of action, and design experiments. It is often associated with such word as compose, plan, propose, design, formulate, arrange, assemble, construct, create, design, setup and organize. Evaluation question requires judgments, value or choice based on comparing of ideas or objects to establish standards. Students must use specific criteria to assess situations or to justify previous responses. It is often associated with such words as judge, appraise, evaluate, rate, compare, value, revise, score, select, choose, assess, estimate, measure, criticize, etc.

Lower level questions are the questions, which test the knowledge, comprehension and simple application levels of the taxonomy. Usually, lower level questions appropriate for evaluating students' preparation and comprehension, diagnosing students' strengths and weaknesses, reviewing and summarizing content. Higher-level questions are those requiring complex application, analysis, synthesis and evaluation skills. Questions at higher levels of the taxonomy are usually most appropriate for encouraging students to think

more deeply and critically, Problem solving, encouraging discussion and stimulating students to seek information on their own.

Typically, the teacher has to change the level of questions even within the single class period. For example, if the students give inadequate or incorrect answers for the high level questions, teacher might move to questions at a lower level of the taxonomy to check whether student know and understand material. If student cannot answer those questions, the teachers might have to change their teaching strategy. If student can answer lower level questions, the teacher must choose a teaching strategy with more complex higher-level questions.

The taxonomy of educational objectives is introduced as a tool, which is helpful for defining the kind of thinking skills teacher expect from students and for helping to make agreement between the teachers' goals and the questions they ask.

***Open and Closed Questions***

Open question possesses the characteristic of stimulating student participation in the learning process. They may have more than one acceptable answer, many of them, which are not anticipated by the teacher. It can be used to stimulate different thinking and generate a variety of responses to challenge student to consider other options or to formulate alternative hypotheses.

Before starting a topic, open question can be used to check the pre knowledge and views of the students. Towards the end of the class, open questions might be useful for directing student to think further on topic or subject. They tend to start with words such as how, why, when, where, what, who and which.

A closed question has a limited number of acceptable answers, most of which will usually be anticipated by the teacher. These can be used to test for specific knowledge of facts. At the beginning of the class, a specific closed question may be less effective and may less encourage responses from students. Closed questions may be more effective to courage the shy or less able students. A closed questions can be recognized easily because it usually starts with words such as do, is, can, could, will, would, shall and should. Both open and closed questions may be at any level of the taxonomy.

**Skills in Questioning**

Questioning is one of the essential skills for any good teacher. Skill in asking questions depends on an awareness of the purpose, the direction of questions and the ability to use a variety of question to suit different purposes and to make different demand. Most teachers think the questioning is so simple and easy that anyone can do it right. However, the teacher must be skilled questioner to be effective. Questions have to be asked strategically and devised carefully. Effective questioning skills can be learned, but the teacher must make the commitment to develop and practice these skills. In addition, the attitudes, behavior and interpersonal skills of the teacher will determine the success of these techniques as with other interactive learning strategies.

**Planning Skills**

Well planned, organized in a logical sequence questions play an important role in teaching. Teachers have to decide their goals and objectives for asking questions. It will help them to determine what level of questions they will ask.

one good strategy is to start with convergent questions and then continue with divergent questions. Be sure the question is clear in your own mind. Thinks through what you want from the student before you ask the questions. It is important to ensure that the questions are specific in nature, well phrased and concise. The task must be clear to the students. Select the content for questioning.

Choose material, which you consider important. Student will study and learn based on the questions you ask. Ask questions, which require an extended response or at least content answer. Teacher should plan to ask only one question at a time. Multiple part questions (run on questions) are confusing and are likely to result in student misunderstanding. "Yes" or "No" questions encourage students to respond without fully understanding or thinking through the issue. Closed questions should be followed by other questions to determine the thinking process of the student.

When planning your questions try to anticipate possible student responses. They will help in your planning by forcing you to consider whether phrasing is accurate, whether question focus on the goal you have in mind, and whether you have enough flexibility to allow students to express ideas in their own words. Until you are quite skilled at classroom questioning, you should write your main questions in advance. Arrange your list in some logical sequence. However, there should be some flexibility in the questioning and its presentation.

Anyway, having a prepared list of questions will help to assure that you ask questions appropriate for your goals and representative of the important material.

***Interactive Skills***

Effective use of communication skills by both teachers and students is more positive to the development of positive interaction in the classroom. In order to do this, student should feel free to ask questions and answer questions, they should not feel threatened by giving an incorrect response. Physical setting, teacher attitudes, creating an accepting atmosphere, wait time after asking questions, effective use of probing and answering to students' questions are the some of the main components of successful interaction, and are explored in brief.

**Physical Setting**

The teachers need to be aware of the setting of the room in which they teach. Make sure everyone hears the question when you ask a question and students can hear the questions and answer when other student ask and answer questions. Repeat it if necessary but don't make a habit of simply repeating every question. If you teach in a large lecture hall and want to encourage participation, it is good idea to move students close to each other and closed to the front of the room. However, it depends on the seating structure and availability of the other facilities. Teacher can facilitate interaction in a small group by arranging students in a circle so that they face each other.

**Attitudes of the Teacher**

Be aware of how your behavior and comments can set the tone for questioning. Students quickly perceive behaviors of the teacher, which are inconsistent with, or negate an interactive learning process. The student must feel free to ask and answer questions without the fear of an adverse response even he or she provides an incorrect response. Teacher should not give the negative answers. If the teacher provides the negative answers,

students discourage to ask the further questions. Generally the teacher should listen to the student, encourage them to continue.

**Creating an Accepting Atmosphere**

Ask questions of the entire class and try to encourage all students to participate. The advantage of calling on only volunteer is that it may be less threatening. Disadvantages of calling on only volunteer are that a small number of students will Be answering all your questions. There are some arguments on calling students by their names. When calling student by names, this avoids confusion as to who was called upon. It helps to create a positive climate where students feel you know them as individuals. Anyway, it is possible to call specific student by name in a non-threatening manner by speaking in a tone of voice, which is friendly. Use positive nonverbal cues while calling on the person, smiling with eye contact. If student is incorrect or cannot respond, accept him without insulting him. Do not pause too long times between response and nomination, if the student cannot respond.

In order to encourage non-participants, call on specific students to answer questions. When you call on a student before the question is asked, every other student is free to ignore the question. Avoid looking down at notes after asking a question. You should be looking for volunteers and noting confusion or understanding of students. Your non-verbal reactions should complement your verbal responses.

After starting the question, pause while everybody has a chance to think of an answer, and then direct it to someone at random to response. Beware of the student who dominates in the class by asking or answering all the questions.

Try to encourage other students to respond by suggesting others volunteer or by calling on non-volunteers. Give student an opportunity to ask questions. Sometimes students so confused they cannot even formulate a question. In addition, many students will not participate because they do not want to make mistakes in front of their peers. Avoid asking all of your questions at the end of the session. If a student was lost at the beginning, he or she has missed an entire session by the time you have asked a question. Students may also be less willing to answer at the end of the session, as they are getting ready to leave.

**Wait Time**

A common problem that occurs when questioning students is the lack of time provided to them in order that they may collect their thoughts and responds. That is called wait time. This is the one factor, which have powerful effect on student participation. Research on questioning and information processing indicates that student need at least 03 seconds to comprehend a question, consider the available information, formulate the answer and begin to respond. Some findings says teachers should provide a wait time of at least 10 to 20 seconds after any question, before any student is called on to answer it. Anyway, the same research revealed that the average wait time, when the teacher waits at all after a question is less than a second.

On the other hand, too much wait time can also be detrimental to student interaction. Experts say that students perceive waiting more than 20-30 seconds as punishing. When no one seems to be able to answer a question, more wait time will not necessarily solve the problem. The amount of wait time depends on the types of question posed and students' characteristics such as familiarity with content and past

experience. Generally lower level questions require less wait time, only three seconds. High-level questions may require five seconds or more.

**Effective Use of Probing**

Effective use of probing is one of the most important questioning skills. If some students do not provide a complete answer, he or she knows a partial answer. In some cases, teachers need to have broken down the question into simple questions. Probing is the use of further questions to force the student to put together his or her partial knowledge into a more complete answer. Probing often involves the use of follow on or leading Questions to help the student answer the initial question or to provide a more complete answer. Probing means going deeper, it can sometimes be painful to both the students and the teacher. It requires patience on the part of the teacher.

**Answering To Students Questions**

Answering to the student questions is another questioning skill. There are two main types of responses to students' questions: answer the questions, and help the students to answer the question for them. In answering the question, the teacher has to decide in how much detail to answer. A good first step is to check that you have understood the question. Once you have the question clear, try a short, direct answer and then check whether this does it for the questioner. If it does not, you should check how many other people have this question now, before you launch into a longer answer. Anyway, when you answering, maintain eye contact with the student. Use nonverbal gesture to indicate your understanding, confusion or support using head nodding, facial expression, hand gestures that signal the student to continue.

On certain occasions teacher may decide to postpone answering a question, when they are very short of time, especially if the answer is complex or when the material will be covered in an upcoming session, or when the answer is of interest to only a few students. When the material is covered later, call it to the student's attention: "here is the answer to the question you asked before." If the answer will not be covered during the course, the best way is to answer it after the class or make an appointment to get together with the student sometime. As well as giving an answer, also tell the questioner where they find more information. By doing this you very clearly communicate to all of the students your willingness to try to answer their questions. Generally, you should answer more questions than you postpone or you are likely to find the students asking fewer and fewer questions.

Teacher has responsibility to discourage inappropriate questions. Usually students ask questions because they wish to learn, but sometimes student will ask a question to sidetrack the class, to get attention, or even to embarrass the teacher. Handling such questions presents a dilemma. If you treat them like other questions, you may encourage the student to ask more of the same, but if you turn that student down abruptly, you may discourage not only that student but also the rest of the class from asking any kind of question. In reacting, it is probably best to indicate tactfully that the question is inappropriate. Teacher can ask: "any questions about the material we covered?"

Other thing is you have to acknowledge when you do not know an answer. If you do not know the answer to a student's question, you say so. Although one of the roles of a teacher is that of "expert" and "information source," admitting that you do not know the answer to a question will probably not damage the students' confidence in you. In fact, giving the students clues about how certain you are of your answers is likely to increase

their confidence in you. On the other hand, if you try to fake it, there is a good chance the students will find you out and your credibility will be seriously damaged. Unless the question is tangential to the objectives of the course, we recommend that you assume responsibility after finding the answer to questions you do not know and report to the entire class.

In not answering the question, you will have met this favorite teacher's trick: "that is a really interesting question!" What do you think? What do the others think?" Reflecting the question back to the questioner carries a number of messages. It suggest that questioning is an important part of learning. It suggests that learning can be a collaborative one. Answering the question conveys information and meets the students' immediate expressed need. Not answering the question help the students to reflect on and extend their current understanding.

All these suggest that questing is an effective way of interaction and turns the teaching into two way process. It relieves pressure and strain of class room activity of both teacher and leaner. Questioning time can becomes a lecture break or time to stretch. Appropriate question posed at the correct time is an effective way of informal feed back. However, effective questioning is an art that is essentially mastered by every good teacher.