

Students' Perceptions of the Conditions that Reduce or Enhance the Pedagogic Value of Instructors' and Students' Questions

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Abstract: *Students and instructors have specific views and attitudes about their own questioning behaviour, derived from other sources such as former students' opinions, their own schooling experience, training, etc. In an endeavour to investigate their views, the students were asked to list the situations under which students' or instructors' questions would be useless and a waste of time. The students were also asked how presented classroom participants' questions would facilitate teaching and learning process. Their responses showed that students varied in their own perceptions of questioning behaviour and certainly in their experience of them. The present study suggested that any move towards greater flexibility in their questioning behaviour needed to be built up on what students currently perceive to be lacking in their questioning and upon what they might regard as a better way of learning.*

Introduction

Articles on the subject of classroom questioning often begin by invoking Socrates. Researchers and other writers concerned with questioning techniques seem to remind us that questioning has a long and venerable history as an educational strategy. And indeed, the Socratic method of using questions and answers to challenge assumptions, expose contradictions, and lead to new knowledge and wisdom is an undeniably powerful teaching approach.

In addition to its long history and demonstrated effectiveness, questioning is also of interest to researchers and practitioners because of its widespread use as a contemporary teaching technique. In the light of this, the present study endeavours to identify

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and investigate those conditions which classroom participants think reduce or enhance the worth of classroom question.

Literature Review

Teachers' questions are pedagogical devices (Gall, 1970). They enable the teacher to assess the students' knowledge of what is being taught. This in turn enables the teacher to evaluate and plan the classroom process for the future. Similarly when students ask questions, the questions serve teachers as means of knowing what the students are learning. When students do not ask questions, both teaching and learning may suffer. A willing teacher, however, can create opportunities for student questions to arise and for learning to follow in answer. But the purpose of creating learning opportunities will be frustrated if students fail to raise questions.

Dillon (1988:7) has argued that just as asking comes before answering in the questioning process, so students' questions need to precede teacher questions in the learning process. According to Dillon, when students ask, learning follows in answer. Thus, student questions determine the issue of the teaching and learning process. But students usually ask few questions. *The vast majority of questions are asked by the teacher, thus indicating the amount of asymmetry that exists in the average classroom* (van Lier 1988:235).

In educational research the focus of the studies on questioning has been to establish the relationship between the forms and cognitive levels of questions and student achievement. Long and Sato (1983:268) in their pioneering work in this area noted that much of the previous research on teachers' questions had examined:

- the status relationship between the participants. The teacher being the dominant figure in the classroom exercises and maintains control of interaction. Hence, it has

been argued that questioning by teachers is an exercise of power and control, and thus limits authentic discussion and discourages questioning by students.

- types of questions students are asked. Teachers usually ask questions that require students to display knowledge rather than provide unknown information or attitude.

For years, educators have recognised the importance of teacher and student questioning. They argue that a teacher who uses frequent questioning, with various types and levels of questions, purposefully directed, provides better evidence of good teaching than if he or she uses an abundance of teacher talk.

Although researchers (e.g., Sadker and Cooper, 1974) believe that student questions in college classrooms are infrequent, little is known about how college students and instructors feel about their questioning behaviour. Thus, one area of study was to identify and examine students' and instructors' perceptions about the conditions that enhance or reduce the pedagogic value of questioning.

Studies on the relationship between the teacher behaviour and student learning (as measured by achievement), sometimes known as the student mediating paradigm, assume that teaching is best understood by examining its effects upon learners. In this connection Wittrock (1986:297) noted:

In contrast to research that studies how teachers or instructional processes directly contribute to student achievement, research on students' thought processes examines how teaching or teachers influence what students think, believe, feel, say, or do that affects their achievements... The distinctive characteristic of the research on students' thought processes is the idea that teaching affects achievement through student thought

processes. That is, teaching influences student thinking. Students' thinking mediates learning and achievement.

The Purpose of the Study

Researchers now look upon lessons as 'socially constructed events' where the teacher and the students contribute to the creation of the classroom input. In other words, input is viewed as a 'co-production' by the participants of the interactional setting and it is believed that the investigation of the interactive process will enable us have a better understanding of the teaching and the learning phenomenon. It is necessary, therefore, to *take a close look at what the learners actually do* when *'they do the learning'* (Allwright, 1980:165).

But events in the classroom are complex. This study attempts to explore that complexity. It is concerned with the classroom participants' perceptions of their questioning behaviour, the factors that account for the worth of classroom questions. More specifically, this study endeavours to identify the conditions that reduce or enhance the pedagogic value of classroom questions.

Methodology

Subjects of the Study

The sample for the study was drawn from Kotebe College of Teacher Education (henceforth KCTE), one of the teacher education institutions in Ethiopia. To date, the College claims to have trained nearly 30% of all secondary school teachers in the country. This College was chosen for the gathering of data mainly for the following two reasons:

As the college is a Teacher Training institution, and as this research deals with an investigation of teaching and learning processes, the data gathered from these adult

future teachers would be of practical importance to the institution.

- In view of the first reason, the researcher expected to get full co-operation from both the academic and the administrative staff of the College.
- KCTE was chosen because of a matter of convenience. It is in this place where I have personal access.

KCTE has a number of departments. Of the five science departments of the College i.e., biology, electrical technology, chemistry, physics, and maths), the Department of Biology was selected as the sample for this study because the instructor was willing to be video recorded. The biology course observed was offered to 40 students. Of these, 36 (f =2, m =34) took part in the present study.

Students who join this College come from different parts of the country and have different mother tongues. What is common to all is that they have studied English as a subject from Grade 3 to 12. They have also been taught other subjects in English from Grade 7 to Grade 12. In addition to this, in the College, English is offered as a subject and serves as a medium of instruction.

Methodological Procedures

The instructor was told the purpose of the study. I told him that I was doing some research on the pedagogic worth of classroom participants' questions. I then requested him to allow me to observe the lessons.

Likewise, the learners were told beforehand the purpose of my observing their class, so that they might not think that the researcher was observing them in order to evaluate their performance. They were informed of the questionnaire that they would fill in, and the

interview that they would sit. I also told them that whatever they said or wrote would only be used for the present undertaking and their names would not be passed on to anybody. Such clarification, it was hoped, would help to avoid any sort of misunderstanding.

Understanding complex classroom processes can surely not be achieved without trying to probe into the workings of the learners' minds through a range of data collection procedures, such as learner self-reports, interviews, and questionnaires. In the present study questionnaires (N= 34) and interviews (N= 12) were used as the basis for the description of the participants' perceptions of classroom questioning, and their potential influence on learning.

Results and Discussion

Conditions that Reduce the Pedagogic Value of the Instructor's and Students' Questions

Students have specific views and attitudes about their instructor's questioning behaviour, based on their contacts with their instructor's questions or derived from other sources, such as former students' opinions, their own schooling experience, etc. In an endeavour to investigate their views on their instructor's questioning behaviour, the students were asked to list the situations under which teachers' or instructors' questions would be useless and a waste of time. Accordingly, the students reported 7 instances in which they believed their instructors' questions would be useless and a waste of time.

35% expressed the view that the instructor's questions would fail to serve any pedagogic purpose 'when the question posed deals with content that is not yet covered'. Such questions, the students reported, were 'likely to be challenging'. And because they were challenging, it appears, the students did not want to be criticised by drawing themselves into interaction with the instructor. As a result

many students would silently wait until the instructor himself answered his own question. The silence may create some tension in the classroom. But the students would hesitate to take risk: the risk of giving an incorrect answer and thereby losing face. The students reported that they would give answers to the instructor's questions only if they knew the correct answer.

The other reason reported by 33% of the students was when the question posed was so simple and elementary that it did not require much thinking. Such questions, the students held, were consequences of inadequate preparation of the lesson by the instructor and would serve the purpose of filling a time gap. In relation to this S₁₃ wrote:

When an instructor has not made adequate preparation of a particular daily lesson plan in accordance to the time allotted to it, he may finish all that he has for that period before the period is due. Under such circumstances the instructor may pose too simple and even irrelevant questions to just kill the remaining time of that period.

When the purpose of the instructor's question was to fill the time gap, S₈ held 'his questions may only require students to repeat what has already been said by other students or by him. He may pose such questions as What did I say? that lacks substance and does not promote learning'.

15% of the respondents stated that the instructor's questions would lose their educational currency when his questions were not clear. According to these respondents, 'the questions could be vague either because of the language the instructor used or lack of skill in questioning'. Since clarity of questions is important, the use of familiar terms, and posing one question at a time may serve to this end.

8% of the students maintained that the instructor's questions would be useless and an inept proactive strategy, as S₃₅ reported, 'when the instructor's questions are directed to crush and devastate the self esteem and confidence of a student by such questions as You there! Do you know what I'm talking about? Can you really understand what I am saying?! ' These threatening questions are not intended to meet their pedagogical end but rather to ridicule and satirise students. Such practice, most likely would induce students to develop hatred and derision not only towards the instructor but towards the subject as well.

At its extreme, according to S₁₅ 'some instructors may ridicule a student or may show their contempt, or may call bad names and crush the eagerness of a student by asking a question from a lesson that is not yet covered'.

6% of the respondents held the view that nomination of a student to answer his/her instructor's questions could reduce the educational value of the instructor's questions. The students claimed that 'if the instructor nominates only those students who raise their hands, other students may perceive and interpret this behaviour of the instructor as some sort of disregard and negligence of low achievers.

In addition, regarding nomination, these students claimed that 'nominating a student and then posing a question enhances learning better than nominating a student to answer after a question is posed'. This, they held, 'may encourage the students to be prepared regularly in anticipation of being nominated and required to answer instructors' questions'. Furthermore, this group of students believed that 'the educational value of an instructor's questions would be least when the question is not directed to a specific student but rather thrown in the air by such remarks as "Who can answer this question?".

Related to this, Handley (1986) suggested the importance of paying attention to student non-verbal behaviours that signal a desire to say something: eye contact, pressing their lips together, and mumbling. Teachers' alertness to readiness to communicate appears to be a factor that may improve classroom interaction. Moreover, as Allwright (1991) noted, this interaction may create a learning opportunity and enhance learning.

Other respondents (4%) believed that the instructor's questions would fail to be an effective pedagogical device under circumstances where the students were unwilling to give a response to the instructor's questions. In such instances, these respondents stressed, 'the instructor may be forced to answer his own questions'.

These respondents argued that the reasons for the students unwillingness to answer the instructor's questions may be (in order of their importance):

- the students might have not studied;
- the question deals with materials not covered yet;
- the question is not clear;
- the question is too simple and elementary;
- the question is not addressed to a particular student.

These students' viewpoints seem to suggest that the major factors that constrained the students willingness to respond to instructor's questions are related to the instructor's behaviour.

In addition to the circumstances under which instructors' questions would be useless and a waste of time, the respondents were also asked to state the circumstances under which their own questions would be futile and a waste of time. The students gave a number of instances that would make student questions trivial and a waste of precious lesson time. One such circumstance related to students'

failure to focus their questions on the topic that was discussed earlier or that was being discussed then. In other words, the respondents (27%) reported that students' questions would turn out unproductive 'when they are off topic'. Such off topic questioning, the students believed, not only 'distracts students attention' but also 'creates confusion'. As S₁₀ saw it:

Questions raised should help students to relate what they are presently learning to what they previously learned. If, however, questions fail to accomplish this task and raise ideas which are not related to the topic they are likely to create confusion to the students.

These students also maintained that the problem would be aggravated if the instructor tried to give some explanation to the question raised. The instructor's reaction, according to these students, might frustrate other students for they lacked knowledge of the area under discussion.

As stated above, it is possible that some instructors are not aware of their questioning and answering behaviour and its impact on their students. If instructors are not cognisant of the effects of their behaviour on students, it is possible that they would interact with the students in ineffective ways. The reasons for the instructors' not perceiving many of the classroom events could possibly be due to instructors' lack of training on how to monitor their own and their students' behaviour in class. Most science instructors during their undergraduate or graduate studies were offered courses that focused on the content of the subject that they majored (specialised). They were not trained as teachers. So these instructors knew only what to teach but not how to teach. It was only recently that the concerned authorities realised this unfortunate situation and acted to gauge the gap. Addis Ababa University has started to give pedagogical courses for undergraduates that would join the teaching profession.

In addition, the students raised 'off the topic' questions for different reasons. The students held that 'off topic questions are usually raised when students want to divert the instructor's attention, say from the assignment that he gave for that period'. By so doing the questioner might escape a negative response from the instructor.

Furthermore, though not frequently, the students reported, 'off topic questions' could have other purposes to accomplish:

- to test how much the instructor is knowledgeable, and
- to show off.

The latter purpose, i.e., the questioner trying to gain respect from the classroom participants by raising 'off topic' questions, 27% of the respondents argued, would reduce the value of questioning as an educational device.

Such purposes of questioning would fail to maintain interaction for they do not ensure that the participants would be on the same wavelength. 'Off topic' questions may not shape attentional processes because they do not encourage other students to focus on the relevant aspects of the lecture. Thus the nature of the question may limit the extent to which it could serve as a means of engaging students' attention and the degree to which it could promote meaningful content-related responses by students or instructor.

'Vague or not clear questions' according to 24% of the respondents also make students' questions useless and a waste of time. The reason for the students to be unable to pose clear questions, these respondents argued, was associated with the students' proficiency in English. It is most likely that students with some deficiency in the language but who are willing to take risks would try to communicate in the class with language they have at their disposal. But in their quest to be understood by the classroom participants such

questioners may take up some verbal space and class time. Such questions would neither enable the instructor to identify and rectify the students' problems nor would they enable the students to contribute their share to the lesson. In other words, it is unlikely that the questioners would learn something from such unclear questions they themselves have raised. It is also less likely for the other students to learn something by listening to the responses of such questions. S₃ explained it thus:

Vague or unclear questions raised by students tend to be difficult to be understood by the instructor. This usually happens when the questioner is deficient in the language. When the instructor accepts such questions and gives some response in the way he understood, both the student's question, and the instructor's response to the question posed are waste of time.

As the students reported it may be a waste of time in the sense that it did not either serve the intention of the questioner or other students did not gain something from it. But the students' confidence to use the language may help them to improve their language.

Other respondents (34%) believe that student questions would be useless and waste of time when they were 'repetitive and elementary or very simple'. This happened, among other instances, when:

1. The questioner(s) was/were not happy with the response given and by so doing the questioner(s) wanted to involve other students to participate in the issue;
2. To attract the attention of the instructor, i.e., when some students failed to organize their own questions, they tended to repeat a question raised earlier. Such students most often repeated lower order questions than higher order questions.

3. Some students with the intention of resolving their cognitive problems by asking questions may find it socially distressing to pursue the queries that form in their minds because of their deficiency in the language. Such students when they fail to express the cognitive challenge that is formed in their minds, would resort to simple and elementary questions of recall so as not to lose face. But such questions may not stimulate students to thought, they may not stir up other students' interest, and may not provide any feedback to the instructor in order to plan his behaviour.

Finally, 7% of the students stated that it was difficult for them to give their reactions on conditions when students questions became useless and a waste of time because students hardly ever asked questions.

In sum, the respondents seemed to suggest challenging or off topic, simple and vague questions by either instructors or students were likely to reduce the worth of questioning as an educational device. This raises an interesting question, would instructors' perceptions be the same as those students mentioned above regarding this issue? It would be intriguing to elicit instructors' responses on the conditions that make classroom participants' questions useless and a waste of time.

From the foregoing discussion, one can observe that students vary in their own perceptions of questioning behaviour and certainly in their experience of them. Any move towards greater flexibility in their questioning behaviour, it appears, needs to be built upon what students currently perceive to be lacking in their questioning and upon what they might regard as a better way of learning.

Conditions that Enhance the Pedagogic Value of the Instructors' and Students' Questions

In the quest to identify what students might regard as a better way of learning, students were asked to report how student questions would be useful to teaching and learning processes. 34% of the respondents reported that they would be helpful if the questions asked were related to the topic under discussion or to what had gone before. Such questions, the students believed, 'could not only give feedback to the instructor on points that he has missed during his lecture but also consolidate students learning by interconnecting the lessons'.

Other students (24%) were of the belief that students' questions would enhance the teaching and learning process 'if the questions were clear and precise'. As the respondents themselves pointed out it would hardly be possible to pose clear and precise questions and maintain the interaction in the absence of language proficiency and questioning skill. Thus the minimal frequency of student questions could be attributed, among other things, to two barriers. One barrier lies in a deficit in acquiring good questioning skill in the language. A second barrier involves social editing. The less proficient student not to lose face might try to reformulate his question so as to be understood by the classroom participants.

Another group of students (16%) claimed that students' questions should focus on discrete items. Questions that did not address broader and general issues, the students hold, may not open discussion and encourage other students to do further reading on the topic.

10% of the students reported that student questions would be useful to the teaching and learning process when the instructor explained

clearly. In other words, instructors 'lack of clarity of explanation' could be one barrier in posing questions.

Another 10% of the students reported that student questions would enhance the teaching and learning process if the purpose of the student questions was not to test how much the instructor was knowledgeable. A question with such a purpose, the students maintained, not only wasted class time but also may create antagonism between the instructor and the questioner.

Finally, 6% of the students held that student questions would be helpful provided that there was a smooth relationship among the classroom participants. In such situations the students would avoid their fear of asking questions in class and be able to contribute their share to the lesson. This could only, however, be realized, the students maintained, if 'the instructor allots some time for questioning and encourages students to ask'.

Discussion thus far has been focused on 'how should student questions be presented to facilitate the teaching and learning process'. Respondents were also asked to report 'how presented instructor's questions would facilitate teaching and learning process'. Accordingly, 19% stated that an instructor's questions would promote the teaching and learning process 'when his questions relate to the present topic under discussion'. This, the students further stated, 'not only serves as an introduction to brainstorm the students, but also enables the instructor to check students' knowledge and thereby make the necessary change in his instructional delivery'.

Other 19% of the students reported that an instructor's questions would be useful and enhance teaching and learning process 'when his questions do not put the emphasis on recall'. The students believed 'if he asks higher order questions, they can promote students' thinking'. 16% of the respondents reported that 'if an

instructor's questions involve all students, his questions are likely to serve their educational purposes'. This group of students suggested that 'weak or clever students should not be his target and consider other students as mere spectators of the game. The respondents also cautioned 'if a student does not know the answer to the instructor's question, the instructor should not force the student to give response to the question. Otherwise, such tendency might reduce the value of questioning'. 13% of the students stated that the instructor's rapport with his students was crucial in the students' interpretation of the purpose of his questioning. The students maintained that if the instructor had a smooth personal relationship with his students then his purpose was likely to be perceived as checking student understanding. Conversely, if he had an undesirable relationship, it is possible that the purpose of his questions could be to ridicule students. The respondents also stressed 'if the instructor nominates a student, poses his question, and then gives some time for the student to organize his answer, the student would be encouraged not only to answer questions but also go public with the queries that form in his/her mind.

Another 13% of the respondents stated that 'clear and not loaded instructor's questions could promote the teaching and learning process'. In connection to this a student who has made an observation of two different instructors stated:

In the Educational psychology course we are taught how questions could be useful educational devices. But let alone the biology instructor, the instructor of Measurement and Evaluation himself does not ask in line with the principle laid in the course. Questions loaded with technical terms would be vague. Thus the instructor has to ask questions that are clear and precise by framing them using simple language.

13% of the respondents stated that an instructor's questions would aid the teaching-learning process 'when the instructor presents his lectures clearly'. These respondents claim that students are unlikely to answer the instructor's questions if they have not clearly understood his lectures'.

Finally, if instructor's questions are posed at every stage of the lesson, 9% of the respondents believe, they will enhance instruction. These respondents claim that questions presented at the beginning of the lesson enable the instructor to assess students' knowledge and plan his lesson. Questions posed in the middle of the lesson assess how much the students have followed the instruction, and focus their attention on the lesson. Questions raised at the end of the lesson help the instructor to recapitulate the lesson which in turn serves the students as a summary.

In general, the students seem to have certain views on how students and instructors should present their questions to facilitate the teaching and learning process. They have set a lot of conditions for instructors' questions to serve educational purposes. Looking at the quantity of conditions they have set for instructors', it appears, the students expect more from instructors questions than their own.

Summary

Many educators have discussed the important role questioning plays in any educational process. In fact, as discussed above, learning is seen as an outgrowth of the questions classroom participants ask. Teachers rely on question asking as a major part of their teaching repertoire. For years, educators have recognised the importance of teacher and student questioning. They argue that a teacher who uses frequent questioning, with various types and levels of questions, purposefully directed, provides better evidence of good teaching than if he or she uses an abundance of teacher talk.

Although researchers (e.g., Sadker and Cooper, 1974) believe that student questions in college classrooms are infrequent, little is known about how college students and instructors feel about their questioning behaviour. Thus, one area of study was to determine how presented instructors' and students' questions would facilitate teaching and learning process.

It has been pointed out above that students' and instructors' perceptions of their own and each others questioning behaviour enhance or reduce the pedagogic value of classroom participants' questions. Participation in question and answer exchange, at first sight, might seem isolated and remote from students' upbringing, school experience, proficiency levels (Seime, 1999) instructor expectation, good rapport, clear explanation, turn distribution, etc.

The present study suggests that students' beliefs play a significant role in learning. Their beliefs are influenced by the social context of learning and can influence both their attitude towards their instructor and the subject. Their belief systems cover a wide range of issues and can influence their motivation to learn, their expectations about the course, their perceptions about the instructor, as well as the kind of strategies they favour.

From the discussion, one can also observe that students vary in their own questioning behaviour and certainly in their experience of them. Any move towards greater flexibility in their questioning behaviour, it appears, needs to be built upon what students currently perceive to be lacking in their questioning and upon what they might regard as a better way of learning.

In conclusion, the literature on expectation seems to suggest that it is inappropriate to set and maintain very high expectations for all students. Unrealistic expectations are likely to induce students to withdraw from interaction and ultimately might depress their learning.

In addition, instructors expectations that are communicated to their students are likely to affect students perceptions and learning which in turn might influence instructors expectations. But in Ethiopia (to my knowledge) the effects of such expectations, perceptions and learning has received no attention.

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