

# Helping Primary School Teachers in the Mountainous Valley of Chitral Pakistan to Enhance Students' Learning through Questioning

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## **Abstract**

*This paper highlights efforts being made to help two primary school teachers introduce questioning as a teaching strategy to maximize learning capacity of their students. Findings of the study indicate that provision of constant technical support is essential in getting the teachers conceptualized and internalized the importance, types and techniques of effective classroom questioning. It further indicates positive changes in the classroom practices of the research participants, as they started planning and executing more interactive lessons through incorporating questions of various levels for the learners. Change in teachers' attitude towards questioning was also visible. They started believing that questioning is a powerful learning and teaching strategy as compared to a technique for silencing the learners to avoid disruption, which they perceived and used previously.*

**Key Words:** Questioning, Bloom's Taxonomy, Understanding, Creativity, Learning, Thinking

## **1. Introduction**

Throughout history, great inventions and miraculous discoveries have almost always arisen from people asking themselves questions. Questions such as, "Why do apples always drop straight to the ground when they fall from trees?", "What lies across/under that ocean?" By asking themselves these questions, great thinkers and adventurers across time have been able to do such incredible things as derive the laws of physics and explore the far reaches of our world. The Spirit of Questioning is what allows us to understand our world, it is what drives us through our lives. It is the hunt for truth.

By nature a learner in general and a child in particular possesses an inquisitive mind. If there is a drive in an individual to increase knowledge, skills or understanding it is driven by doubt, curiosity, uncertainty, or recognition of a need. This drive is then focused through questions that the learner formulates and actively seeks to find answers to. They may be simple questions that seek clear facts, or complex questions that probe deep into concepts, beliefs and understandings. The question may provide an answer that solves the learning need or may lead to further questions as knowledge and understanding of the learner grows (Brualdi: 1998).

McKenzie (2003) believes that “Questions and questioning are critically important human technologies that might enable young people to solve problems, make smart decisions and score well on the tests of life as well as all the other tests that loom in a child’s world”.

A great deal of research work has been carried out on classroom questioning in the developed countries. The excessive use of classroom questioning as a teaching strategy, and its consequent potential for influencing student learning, have led many investigators to examine relationships between questioning methods and student achievement and behavior. (Cotton nd). The process of questioning has proved to be supportive of students’ engagement in learning and teacher’s ability to monitor the learning process. (Stronge, 2002). Similarly, Cotton (nd) based on review of literature on classroom questioning came up with the following common and important research findings.

- Instruction which includes posing questions during lessons is more effective in producing achievement gains than instruction carried out without questioning students.
- Students perform better on test items previously asked as recitation questions than on items they have not been exposed to before.
- Oral questions posed during classroom recitations are more effective in fostering learning than are written questions.
- Questions which focus student attention on salient elements in the lesson result in better comprehension than questions which do not.

Despite the pivotal role of classroom questioning in enhancing students’ learning and creativity teachers either tend to ignore the importance of questioning or lack the skill to develop and use questions to arouse creativity and develop learning of students. According to McKenzie (1997) most studies of classroom exchanges in the past few decades report that student questions have been an endangered species for quite some time. Even if any questions are used by the teachers, unfortunately most of them are lower order in nature and thus fail to contribute to students’ learning and creativity (Korkmaz 2009).

The context of Chitral, being an underdeveloped and disadvantaged area, presents even a gloomier picture of classroom questioning. The use of questioning as a teaching and learning strategy in schools is rare. My experience being a learner, a teacher and a teacher trainer in the context of Chitral reveal that teachers limit the boundaries of teaching and learning within the textbooks. Questions, if any, are used in the classrooms, fall short of developing students’ thinking skill and creativity. Such questions usually are taken from the textbook, which are crammed, memorized and retold by the students in tests and exams, and usually forgotten afterwards.

In addition I have had opportunity to closely observe and work with teachers as well as students in real classroom situations. My own teaching and learning experience coupled with the findings of my observations in various schools within Chitral region reveal that students are usually treated as passive listeners and they never ask questions from the teacher or any other outsiders. Such classroom situation implicitly depicts the scarcity of classroom questioning and the transmission mode of classroom teaching.

Thus, a change in beliefs and classroom practices of teachers is gravely felt so that the teachers start creating more space for students’ learning through interaction specifically through questioning. Different reasons may be counted as driving force for the current

undesirable classroom practice of teachers necessitating it to be found out that why the students are treated as passive absorbers of knowledge and information provided by the teachers? Is it possible to bring positive change in this situation? If so, how? With these questions in mind an action research was conducted in one of the surrounding schools to know and observe whether the passiveness of the students can be overcome and the teachers are helped in organizing activities in order to enhance students' learning through asking and answering questions in the classroom. The researcher believes in what Kemmis, McTaggart and Retallick (2004) argue that the result of action research is improvement in what happens in the classroom and school.

## **2. Research Methodology**

The purpose of the study was to create such an environment where students could raise questions to their teachers, rather than being passive listeners, which was only possible by taking an initiative in a school. As Stephen, Robin and John (2004) argue that "action research provides a way of working which links theory and practice into the one whole: ideas-in-action (p.1)". Thus action research method was the best option to be taken as a research method. According to Stephen, Robin and John (2004) action research is the best means of improvement and as a means of increasing knowledge about school leadership, curriculum, teaching and learning. The cyclical nature of action research allowed the researcher to plan, act, observe and reflect on the different steps taken in the field. The study was conducted in one of the Aga Khan Primary Schools in Chitral having three teachers. These teachers teach classes 1-2, 3-4 and 5 respectively.

Different tools were used for generating data. Some lessons of each of the research participant were observed at pre and post intervention stages in order to identify issues regarding the understudy topic as well as to see improvement in the practice of the research participants. Similarly interviews were conducted which aimed at finding out the understanding level of the research participants of the understudy concept, as well as identifying their learning of and attitudinal change regarding the concept being studied. In addition field notes were also maintained in order to keep record of each and everything happening in the field of action. Similarly reflective journals were maintained both by the researcher and research participants. It remained helpful for modifying the plans based on the emerging needs as the study progressed.

### **2.1 Reconnaissance**

At the reconnaissance stage, before taking any intervention in the field, two lessons of each of the research participants were observed followed by group discussion to identify the research participants' perceptions, understanding and practices of students' questioning in the classroom.

The initial findings revealed that opportunities for students' questioning in the classroom were very limited. They had to follow instructions directed by the teachers even without asking for clarification when they needed during performing the tasks given by the teachers. Sporadic questions asked by the teachers focused factual answers and were unable to arouse interest of the students towards learning. Those lower cognitive questions asked the students merely to recall verbatim in their own words material learnt previously (Cotton, n.d.).

This method forces the learners to rote learn the specific answers rather than being engaged in thinking and generating learning. At the same time teachers seemed to be unfamiliar with the questioning techniques and its purpose. The reasons they claim for asking questions in the classroom also seem to be shallow and serve superficial purpose. One of the research participants declares “*We ask questions from the students to keep them busy in the classroom*”.

In addition, the teachers were observed asking a number of questions at the same time thus making the students confused and making them forget the questions asked earlier. Without giving the students some time to ponder and answer the asked questions, the teachers would start answering the questions. This practice would adversely affect students’ thinking skills by making them dependent on the teachers. Whereas Wang and Ong (2003) argue that, “You need to wait after asking a question before answering it yourself or going on to ask further questions or making further points. .. Waiting is a sign that you want thoughtful participation”.

The above described findings necessitated that the teachers are supported to enhance their questioning skills and techniques. Once they have developed their understanding and skills for formulating and asking relevant questions, it will be easier for them to plan their activities and lessons to foster their students’ questioning skills.

### **3. Helping Participants with Questioning Skills, Techniques and Ideas**

Based on the findings at the reconnaissance step, the needs of the teachers became evident that they needed to get a clear concept of the value, techniques, and levels of questions relevant to the cognitive level of the students. In order to change their conceptualization of questioning, its purpose and techniques the research participants needed an orientation to help them reconceptualize the nature, quality and purpose of questioning. Therefore workshops on questioning were conducted, some lessons co-planned with the research participants followed by observation and feedback and a model lesson was delivered.

Intervention started with conducting two workshops, each three hour long, for the research participants. The first workshop focused the importance and types of classroom questions based on the different cognitive levels, identified by Bloom’s Taxonomy. The workshop started with a discussion on an open ended question, “What type of questions do you use in the classroom and why”. A number of questions were listed down by the research participants followed by noting down the purpose for posing those questions. Almost all those questions were of low order focusing factual and short answers. For instance, “When was Quaid-e-Azam born?, When and where did Allama Iqbal die?, Who made Pakistan for us? What was the name of our Prophet PBUH?, How many days are there in a week? As the questions remained of low category, the purpose(s) for asking such questions, mentioned by the research participants, also depicted their superficial understanding of the reasons for using questions in the classroom. Some of the reasons to questioning identified by the research participants were, for managing and controlling the class, to have a noiseless (not disrupting) class, to help the teacher in managing more classes and so on.

The research participants’ level of understanding of the understudy concept paved the way to introduce questions, to the research participants, of various levels and their purposes based on Bloom’s Taxonomy. After enhancing their understanding of questioning and its techniques through reading materials followed by discussion and a presentation by the researcher, the research participants developed some questions of each category with the help

of question stems provided to them. In order to better comprehend the research area the research participants were asked to reconceptualize their existing practices of questioning and its use. Therefore, they were asked to go through some old test (exam) papers they used in the school to find out different levels of questions used in those exam papers. This process helped them identify the patterns and levels of questions they had used in the exams. One of the research participants expressed her feelings that;

Most of the questions used in the papers required the students to rote learn some information rather than to expand their thinking and creativity. Similarly, though we used different questions in the exams, we were unable to differentiate among the levels of those questions as well as the purpose of using those questions. (Saira: 26-04-2006).

The research participants found it quite interesting and informative. They were excited to learn how the wording can make questions simple or complicated according to the level of the students, which they did not thought about prior to the commencement of this study.

Though the research participants had developed their conceptual understanding of classroom questioning, they needed practical application of their new learning in the real classroom situation. Realizing their level of understanding as well as workload, the research participants were given enough time to digest the new learning well through practically implementing it in their usual lessons. Afterwards a couple of their lessons were observed to see their progress. A considerable improvement was observed in their lessons observed by the researcher. Both the research participants tried to incorporate questions in their lessons, though sometimes they seemed to get confused and use questions in the lessons without being conscious about the purpose of those questions, which indicated further step to be taken by the researcher.

Therefore, another workshop was conducted with a focus to help the research participants set objectives and include some questions of different levels. Thus one lesson with each research participant was co planned followed by observations and feedback by the researcher. With the passage of time, improvement and progression in the quality of teaching of the research participants kept improving. However, managing time effectively for planned activities was observed as a challenging task for both of them.

Thus, a model lesson focusing Blooms taxonomy, understanding, comprehension, application, analysis, synthesis and evaluation was planned and executed. During this lesson, the students were given time to develop, ask and answer questions to each other related to the topic given to them. The students not only prepared questions and developed their thinking skills but also enjoyed the lesson. The research participants observed the pace, progression of the lesson as well as the questions used to maximize students learning. As a result they were prepared in a better way to plan their lessons through providing space for questioning as a teaching and learning strategy.

#### **4. Result Analysis**

Though some reflections and experiences have already been discussed, the analysis of overall results of the study is mentioned as below:

##### **4.1 Improved Classroom Practices of the Research Participants**

Findings of the study confirm that despite the variation in the level of understanding of the concept, both the research participants demonstrated encouraging improvement in their classroom teaching. A considerable improvement in the classroom practices of the teachers was evident during their teaching after going through the workshop. They tried to put questions of various levels in their lessons. While teaching class 4 students a science lesson Ms. Kulsoom provided the students four different activities, each one focusing a different level, including knowledge, comprehension, application and analysis. The complexity of the questions was increased gradually starting from knowledge level questions. "I tried to apply the ideas learnt on the workshop, in this lesson and planned activities according to the different levels learnt during the workshop" (Kulsoom Post conference: 28-04-2006).

During the whole process of research, the research participants went through rigorous processes of planning lessons, teaching, observing, receiving feedback, formal and informal discussions, interviews and studying research based articles. As a result, they improved their understanding of effective questioning and began to incorporate questions in their plans and activities as a result students began to enjoy their teaching being engaged in meaningful and interactive activities. One of the research participants compares her teaching before and after the study in these words:

This study helped us very much. Before this we were unaware of using critical questions . Now we understood how to incorporate different levels of questions in our routine teaching. Through workshop, model lesson and class room observation we learnt the techniques to incorporate questions in our teaching. (Ms. Saira 08-06-2006)

Once the research participants started integrating questions in their plans and teaching, students not only took interest in the classroom activities but also deepened their conceptual understanding. One of the research participants in a group discussion asserted, "This action research helped us to know that children learn more through questioning, we also learnt the techniques to encourage students for questioning (Kulsoom: 08-06-2006).

More importantly, by the end of the research process, the research participants were not only able to incorporate effective questions in their teaching, but learnt to make the students raise questions. Their attitude and practices changed as compared to the pre intervention stage. "Before we did not spare space nor had activity in our lesson planning for questioning and now we know that without questioning students' learning is less effective" (Saira: 08-06-2006). According to Wang and Ong (2003) "What is in a question, you ask? Everything. It is a way of evoking stimulating response or stultifying inquiry. It is, in essence, the every core of teaching".

#### **4.2 Familiarization with Different Level Questions**

It is generally believed that children get more knowledge if they are allowed to ask questions. Talking about the quality of questions being used in the classroom the research participants maintain that “We were unaware of the proper questioning techniques/type and mostly we asked the knowledge based questions and occasionally comprehension questions”, (Saira: 07-06-2006). Similarly, the other teacher supported this idea by giving some examples of questions being asked before the research study. She mentioned that, “We used similar questions like, how many provinces are there in Pakistan, knowledge based questions only”, (Interview Kulsoom: 08-06-2006). Literature also confirms that most of the time teachers use low order question, “As teachers we tend to ask question of the “knowledge” category 80% to 90% of the time” (Blook, et al, 1956). However, it does not mean that low order questions are valueless and should never be used in the classroom. The teachers have to be mindful in using questions of different levels and types in their lessons keeping in mind the needs and level of their students.

#### **4.3 Change in Teachers’ Beliefs**

At the initial stage the data gathered revealed that the research participants would ask simple questions to get factual answers from the students and learning through questioning was occasional classroom practice for students. At the reconnaissance stage, the research participants seemed unaware of the value and effectiveness of classroom questions. they thought it as tool for controlling students and managing class, as Ms. Kulsoom remarks, “By asking questions we keep the class in our control and busy”. However, by the end of the research study, a considerable change in their attitude towards classroom questioning was obvious, as one of the research participants reflects on her learning in her reflective diary.

This action research remained very useful for us. Before this we did not know what the questions are; now we came to know that questions are the fundamental parts of our teaching. We also learnt how we can incorporate questions in our daily activities. Before this research we would ask questions, but we did not know about different types of questions and cognitive processes. Most of the time we used to ask questions of very low (knowledge level) and seldom asked questions to check comprehension or higher level. (Reflection Saira June 5, 2006)

The By the end of the research study, the research participants had changed their thinking about questioning. As Ms. Kulsoom remarked, “*now we realize that we were unaware of the power and importance of questioning in students’ learning and so did not give them (students) chance to ask questions, therefore, children feel shy in asking questions*” (Interview Kulsoom: 08-06-2006). Both their practice in the classroom and their feelings, shared with the researcher, indicated a positive change in their beliefs as well as classroom teaching practice. The study has not only helped the research participants understand the concept but also enabled them critically reflect on their practices, which is an encouraging and appreciable change in their views about student learning.

#### **4.4 Students Learn Effectively Through Appropriate Questioning**

Study findings indicate that use of proper questions has helped students being actively involved in and enjoy learning in the classroom. One of the research participants while teaching Science lesson executed activities with questions of various levels where the students had to list down different parts of a plant, to relate plant to animals, eliciting names of different parts of animals' body, cut then join different parts of a plant with names (written on pieces of paper). The students seemed deeply involved in the lesson as they did not want to leave the class after the lesson ended. All these activities were enjoyed and performed by the students very effectively, (classroom observation: April 28, 2006).

Similarly Kulsoom wanted her students to prepare questions in different groups and then answer them. She divided the students into four groups, provided them different texts related to the same topic and asked them to read the texts and develop questions based on the text followed by asking and answering each other's questions. In this way the students learned how to prepare and answer questions and they seemed very much involved in the lesson, (Classroom observation: Kulsoom April 28, 2006).

The data shows that teachers have learnt questioning techniques. This technique is fundamental for asking quality questions, which is expected to lead towards effective classroom teaching and learning process. "Strong questioning skills fuel and steer the inventive process required to "cook up" something new, without such skills, our students become prisoners of conventional wisdom and the trend of bandwagon of the day" (Mckenzie, 2002).

It can be claimed that students have the capabilities to develop if they are provided opportunity to participate in creative activities like questioning. However, it depends on the teachers how innovative they are and know about the different levels of cognitive processes of the students. Questioning not only improves students' learning but also develops their interpersonal skills provided that those are prepared, framed and posed to get the best from the students.

#### **4.5 What I Learnt from this Study?**

As a researcher I learnt that the plan of action has to be flexible, as it goes through frequent changes in the field to deal with emerging needs and issues. Flexibility allows one to address contextual issues which unfold as the process goes on rather than the researcher sticking with his/her plan. Another learning point was that planning even with great care does not guarantee the same level of participation from all the people engaged in the study. They learn according to their own pace and level of understanding. Therefore, the researcher has to be patient and flexible.

I also learnt that only giving conceptual and theoretical information does not guarantee the desired change in teaching learning process unless it is supported and reinforced with further practical and technical support, including helping teachers in planning and designing activities as well as giving them some practical examples, like model lesson. Thus, they internalize new concepts when it is given in parts and enough time is taken to make them digest the dose given to them.



#### **4.6 Challenges**

During the action research a number of challenges were faced and alternatives used to overcome those challenges. Research participants' poor grasp of English language and a sudden change in the academic year schedule are some examples of challenges faced during this study.

English language seemed to be a hurdle for the research participants to read and grasp relevant materials provided to them for reading. To conceptualize the under study concept the research participants were required to study handouts and materials which are available only in English language, which they found quite challenging to read and grasp. However, practical examples, given to them remained helpful to make them understand the concepts.

The research started in October with the idea to undertake most of the research work during November and December, however there was a sudden change in the school academic schedule by the organization. Exams were conducted in November, rather than in March next year. Similarly in December the participants remained busy in yearly appraisal and thus, it was hard to find time for the research activities. However, the research participants were kind enough to plan new lessons and teach the classes where they were observed from time to time.

#### **5. Conclusion**

Questioning works as a key to open the mind of the learner, which otherwise remains locked. When the students have learnt questioning technique, it means they have learnt how to learn. "Once you have learned how to ask relevant and appropriate questions, you have learned how to learn and no one can keep you from learning whatever you want or need to know" (Mckenzie, 2002). The students can, if provided opportunity, enhance their learning as well as questioning skills. However, this necessitates teachers to conceptualize and internalize the importance, types and techniques of questioning. Questions not matching the level of the students' mental ability, without giving them time to think may not yield desirable result, rather they may lead to 'surface level learning' (Harrison, 2004). The teachers need to be vigilant at the planning stage to ensure that the teaching methods should encourage learners to take deep approach to their learning. This requires the learners to dig deeper to understand the presented material. Therefore, it can be concluded that the more is the use of critical questions the deeper is the learning of the learners. Questioning will encourage the learners to adopt an inquisitive mind that can foster deep learning.

The study also highlights that in order to enable students question materials and knowledge and deepen their understanding, it is imperative for the teachers to equip themselves with questioning skills and more importantly they question their practices and the material they experience, which can pave the way for them to create such an environment for their students in their classroom. Findings of the study have great implications for change agents and teacher training institutions. Any effort aiming at improving teaching and learning process in schools and other educational institutions should provide a considerable space for student questioning. This would be possible when the teachers are equipped with updated knowledge and skills regarding questioning, so that they use it as an effective instructional strategy rather than considering it a tool for classroom management as the research participants considered prior to the research being conducted.

## References

- Brualdi, (1998), Classroom questions. [Online]Available: <http://PAREonline.net/getvn.asp?v=6&n=6>.
- Cotton, (n.d.), Classroom Questioning: The schooling practice the matter most. [Online] Available: <http://www.nwrel.org/scpd/sirs/3/cu5.html>.
- Harrison, (2004), Unleashing deep learning through questioning. [Online]Available: [http://www.ece.salford.ac.uk/proceedings/papers/ph\\_04.rtf](http://www.ece.salford.ac.uk/proceedings/papers/ph_04.rtf) .
- Korkmaz, I. (2009). The examination of elementary teachers' effectiveness on using questioning strategies in their classrooms. *The International Journal of Learning*, (16) 6, 513-522
- McKenzie, (2003), Questions as technology. [Online]Available: <http://questioning.org/qtech.html>.
- Wang, and Ong, (2003), Ideas on teaching: Questioning techniques for active learning. [Online] Available: <http://www.cdtl.nus.edu.sg/Ideas/iot2.htm>.
- Stephen, K. Robin, M. & John, R. (2004). *The action research planner*. The Aga Khan University Institute for Educational Development Karachi.
- McKenzie, (1997), The questioning is the answer: Creating. Available research programs for an age of information. [Online] Available: <http://questioning.org/Q6/question.html>
- Stronge, J. H. (2002). *Qualities of effective teachers*. Alexandria, VA: Association for Supervision and Curriculum Development.