*Hafiz M. Inamullah**
*Wilayat Bibi***
*H.M. Irshadullah****

An Analytical Study of Questioning Leading to Critical Thinking in Secondary Level Classrooms

ABSTRACT

The overall purpose of the proposed study was to investigate questioning leading to critical thinking in the classrooms setting. It was focused to determine the levels of questions keeping in view the Bloom's Taxonomy. The study was an observational type of the descriptive method. The target population composed of 21965 teachers at Secondary Level in Khyber Pakhtunkhwa. Using proportional allocation of population (Walpole, 1968), 176 Secondary School teachers were observed in their classrooms during their teaching. Using simple random sample technique, the study was conducted in districts Peshawar, Kohat, D.I. Khan, Mansehra, Mardan, Malakand, and Swat. To achieve the objectives of the study, the instrument "observation guide using Bloom's Taxonomy" was used. The teachers' asked questions were observed and was also audio recorded. The questions were

*   Associate Professor, IER, University of Peshawar
** Assistant Professor, SBB Women University, Peshawar
*** Assistant Professor Abdul Wali Khan University, Mardan

then categorized on the observation sheet as knowledge, comprehension, application, analysis, synthesis and evaluation.

The study results revealed that teachers practice of asking questions was very weak, majority of the teachers asked dominantly lower order and convergent questions at secondary level which could not help to develop the habit of critical thinking among students. It was recommended that the use of multiple types of questions in the classroom is crucial for promoting students' critical thinking.

Key Words: Questioning, Convergent, Divergent, Critical Thinking, Secondary

Introduction

One of the aims of teaching is to equip the students with necessary skills to make appropriate decisions in life. For this purpose students must be taught in such a way as to enable them to solve the problems actively, to think critically, and to feel relax about them. They get these skills of thinking by learning to response to critical questions. Asking appropriate question which lead to critical thinking is a complicated process and unfortunately most of the teachers are untrained to ask high-quality questions (Cecil, 1995).

The questioning process is a central feature of most classrooms. Teachers ask questions not only to monitor students understanding, but also to stimulate students to engage with the content, relate it to the prior knowledge, and to think about its applications. Researches show that teachers are supposed to ask as many questions which require students to process and analyze information while

many of their questions are factual which encourage only rote memorization. Teachers also tend to rush students responses not giving them adequate time to provide varied and thoughtful answers (Ryan & Cooper, 2010).

Questions are tool for checking the understanding level of students. Questions are not only asked to make the students learn factual knowledge or recall information but the important thing is to ensure that the questions engage students in deeper and creative thinking. One way to make sure that the questions involve students in creative and analytical thinking is to plan in advance using an organizational structure such as Bloom's Taxonomy (Fisher & Frey, 2007).

When one considers the development of thinking skills, turns for guidance to Bloom's Taxonomy. Education professor Benjamin Bloom and a group of colleagues worked to develop a system to identify and organize the process of thinking and learning. In 1956 Bloom's group published the Taxonomy of Educational Objectives: Handbook 1, which is now commonly known as Bloom's Taxonomy (McDonald & Hershman, 2010). To summarize this taxonomy advocate that giving judgment for something is not possible without knowing the facts, understanding of the facts, application of the facts, taking the facts apart, and putting the facts organized in such a way that new perspectives are disclosed (Morgan & Saxton, 2006).

Bloom's six types of questions can further be divided into three detailed groups. Level one question consists of "knowledge" and "comprehension". These are categorized as lower level questions, which require students to recall and collect data, but these encourage students for little deep thinking. Level two questions consist of "application" and

"analysis". Such types of questions require the students to begin to process data and to assimilate new content with their own observations. The third level of questions is "synthesis" and "evaluation". These questions provoke higher level deep thinking because these involve a high level of mental activity (Cecil, 1995). These different questioning techniques of Bloom's Taxonomy are recommended to promote critical and analytical thinking in students. Teachers can inculcate these questions in such a manner that students actively participate in many activities of deep level thinking and behind these techniques the teachers have many objectives and conclusions. These objectives can be achieved effectively by creating an encouraging classroom environment boost up active involvement of students with new experiences and inquisitive attitude which help them in achieving their goals (Shaunessy, 2005).

Classroom activities involve the students into the process of inquiry-thinking, feeling, discussing, arguing, philosophizing and more- and it is the teacher who is mostly the initiator of these actions (Morgan & Saxton, 2006).

Gall (1984) indicated that teachers seldom ask questions that require higher levels of thinking (application, analysis, synthesis or evaluation). Teachers ask questions requiring students to recall facts. This is unfortunate because higher order questions stimulate critical thinking.

Asking convergent questions means to restrict student's responses to one right answer while asking divergent questions is to divert student's thinking in many directions. Divergent questions encourage critical thinking about problems. Mostly, teachers ask convergent questions without realizing the fact that they are confining students to recall of information (Althouse et al; 2003). Convergent questions can

only be effective when teachers want to assess students' knowledge of facts (Colburn, 2003).

Method

Population
All the 21965 teachers (http://www.kpese.gov.pk/)of the public secondary schools in Khyber Pakhtunkhwa.

Sample
Using proportion allocation of population (Walpole, 1968) 176 secondary level teachers, teaching to secondary level classes of 6th, 7th, 8th, 9th, and 10th were observed. The researcher conducted observations of teachers teaching subjects of English, Urdu, social studies/ Pakistan studies, Islamiyat, civics at secondary level.

Using simple random sample technique, the study was conducted in the districts of Peshawar, Kohat, D.I.Khan, Mansehra, Mardan, Malakand, and Swat.

Research Instrument

To achieve the objectives of the study, the instrument was taken from "the instructional leader's guide to informal classroom observations" (Zepeda, 2009) and was modified. The modifications were made in each category of the cognitive domain of Bloom's Taxonomy. Each level was further divided into sub categories so that the categorization of the questions become easy and done appropriately.

Procedure

The design of the study was observational. In order to collect data, the observational sheet was used while observing teacher's lesson. One hundred and seventy six lessons were observed at Secondary Level. During the observation the researcher noted down the questions asked by the teacher and was also audio recorded. The questions were then categorized on the observation sheet as knowledge, comprehension, application, analysis, synthesis and evaluation based.

Data Collection

The researcher visited different institutions and interacted with different teachers at Secondary level. One hundred and seventy six classes with different strength of the students were observed. The class sizes ranged from 40-100 students at secondary level. Throughout the classroom observations, the teachers' questioning strategy was observed. The observation sheet developed for the study was used for encoding the data. Each teacher was observed in the allocated class time in different institutions.

One hundred and seventy six audio – taped observation sessions were transcribed. The transcribed data was analyzed on the bases of intuitive interpretation of the researcher (Kvale, 1996). Following observations, questions were categorized on the observation sheet consisting six levels of Bloom's Taxonomy. The Procedural questions (e.g., take out your books and start reading? and rhetorical questions (e.g., you have test today, isn't it?) were not analyzed.

The researcher identified the level of thinking for each question noted and placed it in the knowledge,

comprehension, application, analysis, synthesis and evaluation category.

The teacher's questions were coded lower – order that asks for knowledge, comprehension and application, the first three categories of Bloom's taxonomy. The questions that asked for analysis, synthesis, and evaluation were coded as higher – order questions, the last three categories of Bloom's taxonomy (Morgan & Saxton, 1994, p.63, 64).

Some of the examples of low order questions include: which is the biggest mountain range? What is the meaning of cognitive? Which city of Pakistan is called "City of Colleges"? Where is Mount Olympia? What is the boundary between Afghanistan and Pakistan called?

Some of the higher order questions were:

What would happen if we had no government? Why do we have rules and laws? What the difference is between 'needs' and 'wants'?

When the level of teacher questions was confirmed, questioning data were recorded onto a questioning chart regarding: question types; categories of data from the chart were summed. After each category was calculated, the total number of question types was divided by the number of questions the teacher asked. This information provided a percentage of each category of Bloom's taxonomy.

The formula of percentage was:

$$\frac{\text{Number of asked questions}}{\text{Total number of questions}} \times 100$$

Secondary Level Data of individual tables

111

Connotation used:

K= Knowledge, C= Comprehension, APP= Application, ANA= Analysis, SYNT= Synthesis, EVA= Evaluation, No of Obs. Ques. = Number of observed questions

Table

Time	No. of obs. Ques.	K	C	App	Ana	Synt	Eva
30min	19	12	7	0	0	0	0
%age		63%	37%	0%	0%	0%	0%

The above table indicated that in 30 minutes class duration, the researcher observed 19 questions. 63% of the questions were knowledge based and 37% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 63%.

Table

Time	No. of obs. Ques.	K	C	App	Ana	Synt	Eva
20min	9	3	5	0	0	1	0
%age		33%	56%	0%	0%	11%	0%

The above table indicated that in 20 minutes class duration, the researcher observed 9 questions. 33 % of the questions were knowledge based, 56% were comprehension based, and 11% were synthesis based. Thus majority of the questions asked in the class were lower order questions. Only 11% of the questions were higher order. The total percentage of questions during 20 minutes was 60%.

Comprehensive Tables of Secondary Level Data

Table showing percentage of total questions asked in each category

Observation	Time	No. of Observed Qs.	K	C	App	Analy	Synt	Eva
1	0:15:00	19	11	4	3	1	0	0
2	0:25:00	11	9	2	0	0	0	0
3	0:15:00	10	5	5	0	0	0	0
4	0:15:00	10	9	1	0	0	0	0
5	0:25:00	26	20	2	3	1	0	0
6	0:20:00	7	4	3	0	0	0	0
7	0:30:00	19	12	7	0	0	0	0
8	0:20:00	9	3	5	0	0	1	0
9	0:30:00	17	11	6	0	0	0	0
10	0:25:00	10	8	2	0	0	0	0
11	0:15:00	10	8	2	0	0	0	0
12	0:40:00	7	6	0	0	1	0	0
13	0:45:00	8	8	0	0	0	0	0
14	0:35:00	6	5	1	0	0	0	0
15	0:40:00	6	5	1	0	0	0	0
16	0:45:00	5	4	1	0	0	0	0
17	0:40:00	5	3	1	1	0	0	0
18	0:35:00	7	3	1	0	0	2	1
19	0:40:00	7	5	2	0	0	0	0
20	0:35:00	1	1	0	0	0	0	0
21	0:30:00	2	1	0	0	1	0	0
22	0:35:00	6	5	0	1	0	0	0
23	0:30:00	2	0	1	0	1	0	0
24	0:30:00	11	9	2	0	0	0	0
25	0:20:00	11	3	8	0	0	0	0
26	0:20:00	5	4	1	0	0	0	0
27	0:15:00	9	4	4	0	1	0	0
28	0:20:00	13	7	2	4	0	0	0
29	0:30:00	9	9	0	0	0	0	0
30	0:30:00	19	10	7	2	0	0	0
31	0:30:00	18	12	0	4	1	1	0
32	0:40:00	2	1	1	0	0	0	0
33	0:30:00	4	3	0	1	0	0	0
34	0:35:00	2	0	2	0	0	0	0
35	0:25:00	4	3	0	0	1	0	0

36	0:30:00	2	0	2	0	0	0	0
37	0:30:00	2	1	1	0	0	0	0
38	0:30:00	4	4	0	0	0	0	0
39	0:35:00	2	0	1	1	0	0	0
40	0:35:00	10	10	0	0	0	0	0
41	0:30:00	2	2	0	0	0	0	0
42	0:35:00	4	2	1	1	0	0	0
43	0:35:00	5	3	0	1	1	0	0
44	0:35:00	5	3	0	1	1	0	0
45	0:40:00	0	0	0	0	0	0	0
46	0:35:00	3	2	0	1	0	0	0
47	0:35:00	3	2	1	0	0	0	0
48	0:40:00	4	3	1	0	0	0	0
49	0:35:00	3	2	1	0	0	0	0
50	0:35:00	3	2	1	0	0	0	0
51	0:40:00	4	3	1	0	0	0	0
52	0:40:00	7	5	2	0	0	0	0
53	0:40:00	4	4	0	0	0	0	0
54	0:40:00	6	5	1	0	0	0	0
55	0:40:00	9	6	1	2	0	0	0
56	0:40:00	5	3	0	0	2	0	0
57	0:40:00	5	5	0	0	0	0	0
58	0:40:00	6	6	0	0	0	0	0
59	0:35:00	2	1	0	1	0	0	0
60	0:35:00	4	1	1	1	1	0	0
61	0:35:00	6	4	1	1	0	0	0
62	0:35:00	7	1	0	2	3	1	0
63	0:35:00	3	2	0	1	0	0	0
64	0:25:00	16	7	4	4	1	0	0
65	0:35:00	12	4	6	2	0	0	0
66	0:40:00	6	2	1	2	1	0	0
67	0:35:00	8	1	2	1	4	0	0
68	0:40:00	4	1	2	0	1	0	0
69	0:35:00	5	0	2	3	0	0	0
70	0:30:00	4	3	0	0	1	0	0
71	0:45:00	9	4	1	2	2	0	0
72	0:15:00	4	2	0	1	1	0	0
73	0:30:00	4	1	1	1	1	0	0

114

74	0:40:00	3	1	1	1	0	0	0
75	0:40:00	6	4	0	1	1	0	0
76	0:30:00	3	1	0	1	1	0	0
77	0:35:00	6	3	2	0	1	0	0
78	0:35:00	2	2	0	0	0	0	0
79	0:35:00	8	6	1	1	0	0	0
80	0:35:00	4	2	0	1	1	0	0
81	0:35:00	6	3	3	0	0	0	0
82	0:35:00	4	2	0	0	2	0	0
83	0:35:00	10	7	1	1	1	0	0
84	0:40:00	10	4	3	2	0	1	0
85	0:30:00	5	2	2	0	1	0	0
86	0:25:00	11	6	5	0	0	0	0
87	0:35:00	8	2	4	2	0	0	0
88	0:40:00	17	4	5	3	2	1	2
89	0:30:00	9	8	1	0	0	0	0
90	0:40:00	3	3	0	0	0	0	0
91	0:30:00	4	2	0	2	0	0	0
92	0:25:00	12	6	3	0	2	1	0
93	0:20:00	0	0	0	0	0	0	0
94	0:35:00	7	4	3	0	0	0	0
95	0:35:00	15	6	3	3	0	2	1
96	0:40:00	20	11	3	1	3	0	2
97	0:30:00	6	2	3	1	0	0	0
98	0:20:00	3	3	0	0	0	0	0
99	0:35:00	13	6	6	0	0	1	0
100	0:35:00	18	7	4	4	2	0	1
101	0:40:00	8	2	1	5	0	0	0
102	0:40:00	12	8	2	1	1	0	0
103	0:35:00	10	4	5	0	1	0	0
104	0:30:00	4	3	1	0	0	0	0
105	0:40:00	10	6	4	0	0	0	0
106	0:25:00	4	2	0	1	1	0	0

107	0:35:00	6	3	1	1	0	1	0
108	0:35:00	4	2	1	1	0	0	0
109	0:40:00	5	2	2	1	0	0	0
110	0:45:00	10	4	2	2	1	0	1
111	0:30:00	2	0	2	0	0	0	0
112	0:30:00	2	0	2	0	0	0	0
113	0:45:00	4	3	1	0	0	0	0
114	0:40:00	4	2	2	0	0	0	0
115	0:45:00	10	6	4	0	0	0	0
116	0:30:00	15	6	7	0	2	0	0
117	0:40:00	5	2	3	0	0	0	0
118	0:35:00	12	8	4	0	0	0	0
119	0:45:00	8	2	4	2	0	0	0
120	0:45:00	5	1	3	1	0	0	0
121	0:45:00	6	3	0	1	1	1	0
122	0:45:00	6	3	0	2	1	0	0
123	0:25:00	4	2	0	1	1	0	0
124	0:20:00	8	5	2	1	0	0	0
125	0:30:00	3	3	0	0	0	0	0
126	0:25:00	3	1	2	0	0	0	0
127	0:35:00	2	0	1	0	1	0	0
128	0:30:00	2	2	0	0	0	0	0
129	0:35:00	11	5	2	2	2	0	0
130	0:30:00	10	1	4	2	3	0	0
131	0:40:00	4	2	2	0	0	0	0
132	0:45:00	4	3	0	0	1	0	0
133	0:35:00	6	1	2	1	2	0	0
134	0:40:00	4	2	1	0	1	0	0
135	0:40:00	14	8	5	1	0	0	0
136	0:45:00	13	4	9	0	0	0	0
137	0:40:00	5	4	1	0	0	0	0
138	0:25:00	5	1	1	3	0	0	0
139	0:45:00	19	7	6	5	1	0	0

140	0:25:00	3	2	1	0	0	0	0
141	0:40:00	9	5	2	2	0	0	0
142	0:35:00	3	1	1	0	1	0	0
143	0:25:00	4	1	0	1	2	0	0
144	0:45:00	3	2	0	1	0	0	0
145	0:45:00	4	3	1	0	0	0	0
146	0:45:00	4	3	0	1	0	0	0
147	0:40:00	8	4	3	1	0	0	0
148	0:35:00	7	7	0	0	0	0	0
149	0:35:00	19	17	2	0	0	0	0
150	0:25:00	2	1	0	0	1	0	0
151	0:25:00	3	2	0	1	0	0	0
152	0:25:00	3	3	0	0	0	0	0
153	0:35:00	3	1	0	0	2	0	0
154	0:20:00	4	0	3	1	0	0	0
155	0:30:00	4	0	2	1	1	0	0
156	0:30:00	6	3	2	0	1	0	0
157	0:20:00	3	2	0	0	0	1	0
158	0:40:00	3	2	0	1	0	0	0
159	0:35:00	3	3	0	0	0	0	0
160	0:45:00	4	0	2	1	1	0	0
161	0:30:00	4	1	3	0	0	0	0
162	0:25:00	3	1	2	0	0	0	0
163	0:30:00	3	2	1	0	0	0	0
164	0:35:00	3	0	2	1	0	0	0
165	0:35:00	3	1	1	0	1	0	0
167	0:35:00	3	2	0	0	1	0	0
168	0:40:00	4	4	0	0	0	0	0
169	0:35:00	5	2	1	1	1	0	0
170	0:25:00	2	1	0	1	0	0	0
171	0:20:00	4	4	0	0	0	0	0
172	0:25:00	3	1	1	1	0	0	0
173	0:35:00	3	2	1	0	0	0	0

174	0:25:00	3	1	1	1	0	0	0
175	0:30:00	3	2	1	0	0	0	0
176	0:30:00	11	4	4	3	0	0	0
Total	**97:05:00**	**1150**	**638**	**288**	**125**	**77**	**14**	**8**
%			**55.47%**	**25.04%**	**10.87%**	**6.70%**	**1.22%**	**0.70%**

The above table indicated that during 176 observations session at Secondary Level, the total time of observation was 97 hours and 5 minutes, the total number of questions observed were 1150. The result of the study revealed that the teachers asked questions during instruction. Total percentage of questions during 5825 minutes was 20 percent. The whole number of questions was not good and in most of the classes the number of questions was also too much low. Among 1150 questions 55.47% were knowledge based, 25.04% were comprehension based, 10.87% were application based, 6.70% were analysis based, 1.22% was synthesis based, and 0.70% was evaluation based. In the knowledge category most of the questions were related to knowledge of specifics and terminology, theories and structures, and trend and sequences. In the comprehension category most of the questions asked were related to interpretation and extrapolation. In the application category the questions were either related to manipulation or demonstration. The questions asked in the analysis category were mostly related to analysis of elements and relationship. The questions at synthesis and evaluation level were too much low.
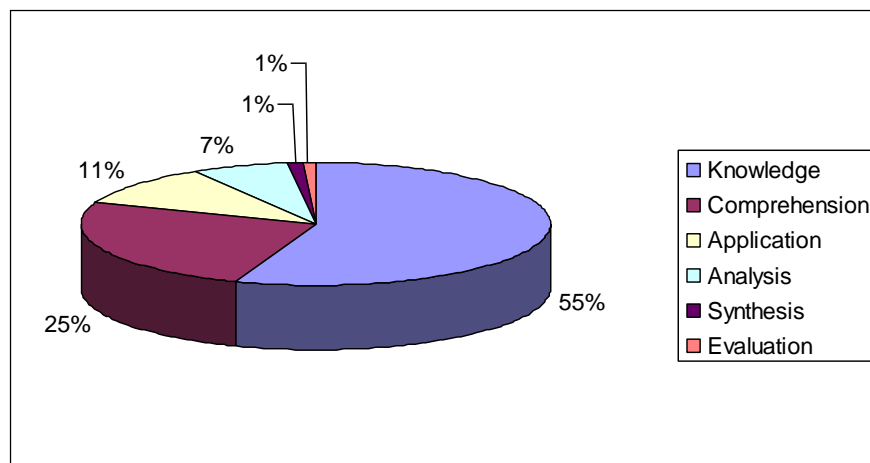
Fig: 1 Graphic representation of secondary level data

Discussion

At secondary level, the teachers in Pakistan do not ask many questions. Much as other studies have shown (Goodlad, 1982) the teachers primarily teach as they were taught in their own school experience, but there are additional reasons as well. The researcher noted that most of the teachers were mainly engaged with giving lectures and explaining the concepts. During their lecture time very few questions were posed, and those that were asked were predominantly of lower order. The questions were mainly related to terminologies of specific words or meanings of difficult words. Teachers lacked the knowledge of Bloom's Taxonomy nor did they have the training to frame questions covering all the levels of Bloom's Taxonomy.

Most of the teachers were not mentally ready to pose questions as their teaching revolves around the textbook only, which did not encourage the teacher to pose questions.

The nature of the required summative examination compelled teachers to make students memorize the content, which encouraged rote learning. Asking a good question is a skill in itself which demands more expertise on the part of teachers in content and pedagogy. Our teachers, however, lack the training and expertise to frame higher order questions to enhance students' thinking. The results are provided strength by the findings of the study of Nisa & Khan (2012) that teacher's content knowledge and pedagogical skills, and some school factors (time constraints, examination system) were some of the possibilities and challenges which influence classroom questioning.

This study was unable to examine the levels of critical thinking—due to the poor levels of questioning. Most of the teachers asked very less number of questions. The researcher also observed some classes where teacher even didn't ask a single question. In the asked questions, the numbers of lower level and convergent questions were greater than higher level and divergent questions at both the levels. The questions which are low level simply reflect no critical thinking. Questions of high level reflect higher thinking but its scale was low.

The result of the study revealed that majority of teachers at secondary level asked lower order and convergent questions and the ratio of higher order and divergent questions was very low. The results are in consistency with the results given by Gall (1984) that teacher seldom asking questions that require higher order thinking. The reason might be the lack of training in asking appropriate questions by the teachers as identified by Cecil (1995).

Conclusion

In the light of findings and discussion the following conclusions have been drawn.

The study results revealed that teachers practice of asking questions were very weak, majority of teachers asked dominantly lower order and convergent questions at secondary level which could not help to develop the ability of critical thinking among students at secondary level. There were variations in terms of classroom time duration and number of asked questions by teachers. The results of the study showed that no question was asked by teachers in some of the classes at secondary level.

Of all the questions asked in the study, lower order and convergent questions elicited the greatest number of responses from the students. Questions at the analysis, synthesis and evaluation levels were not mostly asked. These three levels were rarely used. The researcher also noticed that teachers usually preferred to rely mostly on asking simple questions that would accelerate the teaching learning process and the learners also feel relax to easily answer the teacher's questions.

Recommendations

The following recommendations have been given in light of findings and conclusions.

It is indicated from the results that teachers at secondary level asked low level cognitive questions predominantly while it is suggested that a combination of lower and higher order questions should be asked in order to foster student understanding and achievement.

The teachers' asked questions were mostly factual even if the goal of instruction was to promote higher level thinking. It is therefore recommended that teachers should ask factual questions when the goal is primarily mastery of basic understanding or skills. Higher cognitive questions are effective when more independent thinking is required and where the goal of instruction is to promote higher- level thinking.

The observations revealed that teachers at secondary level classrooms did not ask a good number of questions. No question culture was found in the classrooms. Teachers should develop a thought provoking question culture in the classrooms in order to foster critical thinking among the students.

The results also revealed that teachers' questions were mostly convergent rather than divergent. Open ended, divergent questions should be asked to stimulate divergent thinking among the students. Teachers should use primarily convergent questions to teach facts, rules, and action sequences and should use divergent questions to teach concepts, patterns, and abstractions.

It was observed that the climate in many Pakistani classrooms inhibits students' from asking and answering

questions. In such classrooms, silence and order were the most important features and strict adherence to teacher's imposed rules was dutifully enforced. In such like situation students minds did not grow and never totally engaged in learning. Encouraging atmosphere should be created so that every hand is raised.

Majority of the teachers were unaware about the proper use of questioning technique in the classrooms. Therefore, special training to teachers should be given and six question levels based on Bloom's Taxonomy (1956) may be included in teacher education programme at all levels.

One of the problems might be the overcrowded classrooms in schools of Khyber Pakhtunkhwa. This may also be one of the reasons of not asking much questions in such classrooms. To minimize class strength for the promotion of questioning culture in classrooms is also recommended.

References

Althouse, R., Johnson, M.H. & Mitchell, S.T. (2003). The colors of learning: integrating   the visual arts into the early childhood curriculum

Cecil, N.L. (1995). The Art of Inquiry: Questioning Strategies for K-6 Classrooms Hignell Printing Limited Canada

Colburn, A. (2003). The lingo of learning: 88 education terms every science teacher should know. Victor Graphics, Inc. USA PAGE 33

Elementary & Secondary Education Department Khyebr Pakhtunkhwa- Official Web

Portal. (n.d.) Elementary & Secondary Education Department Khyebr Pakhtunkhwa- Official Web Portal. Retrieved March 8, 2012, from http://www.kpese.gov.pk/

Fisher, D., & Frey, N. (2007).Checking for understanding: formative assessment techniques for your classroom. Alexandria, VA: Association for Supervision and Curriculum Development.

Gall, M. (1984). Synthesis of research on teachers questioning. Educational Leadership, 2, 40- 47.

Goodlad, J. (1982). Let's get on with reconstruction. Phi Delta Kappan, 64, 19-20

Kvale, S. (1996). Interviews: An introduction to qualitative research interviewing.

Thousand Oaks: Sage Publications.

McDonald, E. S., & Hershman, D. M. (2010). Classrooms that spark!: recharge and revive your teaching(2nd ed.). San Francisco, CA: Jossey-Bass.

Morgan, N. & Saxton, J. (2006). Asking better questions, (2nd Ed) Pembroke Publishers, Canada page 18

Morgan, N., & Saxton, J. (1994). Asking better questions. Markham, Ont.: Pembroke Publishers.

Nisa, S., & khan, A. A. (2012). Questioning Practices in A Social Studies Classroom: A Case Study from Pakistan. International J. Soc. Sci. & Education, 2(3), 474-482.

Ryan, K. & Cooper J.M. (2010. Those Who Can, Teach Wadsworth/Cengage Learning Thomson Place Boston, USA PAGE 192

Shaunessy, E. (2005). Questioning Strategies for Teaching the Gifted. Prufrock Press, Inc. Texas, USA

Walpole, R. E. (1968).Introduction to statistics,. New York: Macmillan.

Zepeda, S. J. (2009). The instructional leader's guide to informal classroom observations. Larchmont, N.Y.: Eye on Education