An Analysis of Questioning Strategies in Secondary Mathematics Classroom

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Abstract

This article aimed to assess the current questioning practices and explore their impact in secondary-level mathematics classrooms in Lekhbeshi Municipality, Surkhet district. The researcher adopted a mixed-methods research design, selecting eighty students randomly from four schools for the quantitative component and four teachers along with four students for the qualitative component. Data were collected through questionnaires, interviews, and observations. Statistical tools were employed to analyze quantitative data, while triangulation was used for qualitative themes. The study revealed that poor student performance was linked to inadequate implementation of techniques such as APPLE, DEAL, CLAPS, and the 5W method. Conversely, effective questioning strategies correlated with better student outcomes in mathematics. The findings underscore the importance of teachers mastering the art of student questioning, as it is crucial for fostering curiosity and enhancing learning in mathematics. Inadequate questioning practices can lead to classroom disruption and unproductive results. The study recommends further comparative research on questioning practices in mathematics classrooms and their effects on student achievement in Nepalese schools.

Key Words: Competency Level, APPLE, DEAL, CLAPS, 5W, Questioning

Background of the Study

Questioning is a part of the assessment of learning in order to determine how teachers deliver their pedagogical practice to students. In pedagogical praxes teacher and students both use

questioning practice to engage them on their teaching learning activities. The famous "*Heuristic Method*" and "*Socratic Dialogue*" can help students to come up with mathematical ideas like the definition of prime numbers, although it is used to students' views about how mathematics is used in their daily lives (Wong, 2012). Teacher do questioning practice to engage students' in their lessons, evaluate their readiness level, review and summarize their pre knowledge, develop critical thinking and problem solving and reveal new relationships about the topic to acquire knowledge by themselves (Cotton, 1988). In the context of mathematics lessons, it is evident that the types of knowledge built in mathematics lessons may depend on the teacher's questions. Thus, questions are categories, use and communicate due to the pedagogical practice and classroom circumstances.

Teacher and students should have efficient communication skills as questioning, explaining and representing so that students should be able to understand what they are being communicated. The use of questioning by teachers stimulates students' thinking in classrooms (Wood & Anderson, 2001) and constantly engaged with students in teaching and learning activities that can be used to test the knowledge of the past, with questions requiring factual answers by asking who, what, where, and when (Lang, 1980). The quality of teaching depends upon different factors as attention, voice, pause and content of Questions (Shanmugavelu, et. al., 2020). The questioning is to develop interest and motivate students to become actively involved in the lessons, evaluate students' preparation, develop critical thinking and attitudes, review and summarize, nurture insights, assess achievement of instructional goals and objectives, and stimulate students to pursue knowledge in their own (Dahal, 2022). This is also fact that all types of questions are not suitable all the time. So, different questions can be asked due to the content, context and coverage for the effective teaching and learning. The questioning is necessary to find out to what extent the current practice of teacher as questioner and students as answerers may jeopardize the nurturing of curiosity in students. Numerous studies have described the types of questions that teachers often ask usually closed ones, and their effects on student achievement (Hattie, 2009). Students' achievement in mathematics at school level has been one of the significant concerns in school education in Nepal (Shrestha et al., 2021).

Joshi (2017) states that "*Best Schools*" are known as those schools, which have better academic performance. Students' academic performance is usually affected by several factors such as students' contextual, content based, technology based and practice of students also. Almost that factors, teachers' questioning technique is an important aspect of effective teaching approach. Considering this, many studies (Mahmud, 2015; Shanmugavelu et al., 2020) have been conducted, and the studies showed that the students did better as compared to those students who were not asked questions in their teaching and learning activities in a class.

The global emphasis on 21st-century higher order thinking skills, specifically problem-solving, critical thinking and reasoning must be reflected in mathematics pedagogy (Chapai, 2022) in order to foster student abilities to engage in mathematical reasoning. Teacher questioning is an essential component to engage students as active participants in the learning process because questioning techniques can be helpful for encouraging and promoting student reasoning ability. An effective communication in teaching was necessarily a two-way communication involving talking, questioning, and answering although questioning was quite often taken for granted. However, to what extent has questioning been used in mathematics communication? The emphasis of student-centered teaching in the curriculum, they may have sidelined it in their lesson preparation, including preparing higher-level questions and actual teaching practices due to the present examination culture and time constraints that they faced.

The researcher proposed the objectives as the study to find existing situation of questioning practice in mathematics classroom at secondary level and to explore the impact of questioning practice in mathematics classroom at secondary level to achieve mentioned objectives researcher devised the following research questions as:

I. What is the existing questioning practice in mathematics classroom?
II. What practice of questioning on mathematics classroom is better in mathematical learning at secondary level?
III. How the questioning practice improve students' learning in mathematics?

Review of Literatures

Blosser (2000) classifies the questions into four categories as closed, open, managerial and rhetorical. Although, Fusco (2012) clarifies questions as literal, inferential and metacognitive. The National Council of Teachers of Mathematics (2014) defines four types to categorize teacher questions in mathematics classes as questions for gathering information, probing thinking, making mathematics visible, and encouraging reflection and justification. Bloom (1956) divided the six levels of questions into the cognitive domain. It starts with the questions of recalling facts, which are the lowest levels through the most complex and abstract levels to the highest level, which is classified as evaluation. However, teachers can engage students to think about the content of a lesson and simultaneously get feedback from students to demonstrate the effect of teaching.

Behaviorist learning theories highlight the changes in behavior that result from stimulus-response associations made by students in the mathematics classroom. Even today, there are still instructional approaches that many mathematics teachers use in the mathematics classroom which correlate with the behaviorist learning theory. Mathematics teachers use various methods to control behavior within the mathematics classroom. Questioning is an example of behaviorist applications used in the mathematics classroom by mathematics teachers to control or engage students in learning. According to Orey (2011), mathematics teachers use these strategies to ensure that their classrooms run smoothly and effectively. The attitudes and beliefs about effort and learning that students acquired through repetition and a behaviorist approach are a clear example of how questioning can still be used in today's mathematics classrooms. One way that students can change their outlook and attitude is through questioning in the mathematics classroom (Pitler, et. al., 2012), thus behavior and effort go hand in hand. However the behaviorists argued how questioning strategies are employed in today's mathematics classrooms. There continue to be many instructional strategies that correlate and coincide with behaviorist principles, no matter what learning theory is used and thus behaviorist theory in questioning in the mathematics classrooms continues to be useful.

Vygotsky (1978), a seminal author in the field of cognition theory, stated that higher cognitive processes develop from social interaction. Constructive competence is significant need for children through social interaction with their teacher and classmates inside the mathematics classroom

(Schaeffer, 2011). An awareness of the relationship between the individual and the wider society, both today and in the past connects history and biography. The lens that an individual chooses to view the scope of society from informs their perspective of a classroom, going beyond the obvious to question what is accepted as true or common sense. Further, we use it to emphasize the fact that the mathematics classroom is not about solidarity or social consensus but about the potential competition inspired through questioning.

Bloom (1956) explained competence, skill demonstrated and question. The newly lunched curriculum of mathematics at secondary level prescribed competency based learning that aimed to achieve knowledge, skill, attitudes, values and ability to do work (KSAVA). The questions of the mathematics should be practiced based on APPLE techniques (CDC, 2019). The Specification Grid of SEE, categories the mechanism of question hierarchy from simple to complex according to the Blooms' Taxonomy. In newly launched curriculum, the provision of practical marks has been prescribed as twenty-five marks. In this study, the researcher was investigated how the teacher and student in classroom were used questioning in mathematics classroom at secondary level student in the study site.

Wimer et al. (2001) explained their study that the higher order questioning in the interaction patterns of teachers and students in public and private urban schools. Wong (2012) explained an asking questions is a critical step to advance ones' learning. This lecture will cover two specific functions of training students to ask their own questions in order to promote active learning and metacognition. The first function is for students to ask themselves mathematical questions so that they learn to think like mathematicians who often advance knowledge by asking new questions and trying to solve them. This is also called problem posing, an important component of the "*Look Back*" step in Polya's problem solving framework. The second function is for students to ask their teachers learning questions during lessons when they do not understand certain parts of the lessons. Students who are hesitant to ask learning questions need to be inducted into the habit of doing so, and a simple tool called Student Question Cards (SQC) will be described to achieve this. Four types of mathematics-related questions are designed to cover

meaning, method, reasoning, and applications and these questions are printed on laminated cards given to the students. Shahrill (2013) interpreted on his study that teachers' verbal questioning within a mathematics classroom, examining the role of questions in the classroom and the extent to which this will lead to effective teaching, the significant value and gain that can be achieved by the verbal communication between teachers and students. Dahal et. al. (2019) concluded that existing classroom practices in mathematics pedagogy and the impact on Nepalese mathematics teachers' understanding and uses of questioning. Shanmugavelu, et al. (2020) explained that the proper questioning techniques will make it easier for teachers to get feedback from students whether or not they understand the subject. This is important for enhancing student motivation and promoting positive, critical, and creative thinking among students and to improve the teaching and learning process in the classroom.

Khadka (2021) stated on his study that the Nepalese schoolteachers use lower-order questions, higher-order and follow-up questions in a continuum of frequency from lower to higher order irrespective of teachers' selected characteristics. However, the teachers with a few years of experience use lower-order questions, and trained teachers use more frequently follow-up questions to a significant extent. Based on the findings of this study, Nepali school policy makers and leaders can adapt the existing teacher development programs and policies to make effective teaching and learning. Moreover, teachers can also get insights actually at what level they are in questioning techniques, and further, improve their questioning techniques. Mahmud et. al. (2021) explained on their study that providing feedback to the student responses in the oral questioning process is an essential element in helping the students to understand the concept of mathematics. The researchers had studied various literatures related to topics of the study. After then, the researcher found the gap of existing researches and the something finding new.

The researcher adopted behaviorist theory to recurring practice to organize students and teachers behavior to practice of questioning in mathematics. The social constructivist theory was adopted to students' and teachers' role to construct mathematical knowledge through their interaction of questioning. Blooms' taxonomy was adopted to categories level of questions at mathematics

classroom. Constructivists argued that the teacher only construct knowledge s/he must reproduce a series of facts (Shah, 2019). By differentiate learning strategies, the students conceive content as teacher wishes to delivery. While Gardner's theory is widely accepted by educators, the scientific community is more skeptical. Gardner's response is that the intelligences are not the same as learning styles (Woolfolk, 2019). However, students have their different styles of learning in mathematics. Multi perspective ways of thought and multi contextual practice should be studied on the case of this study.

Methodology

The study was mixed research design. Thus, the researcher adopted quantitative design to identify the existing practice of questioning in mathematics and qualitative design was adopted to explore impact of questioning practice in mathematics at secondary level. The researcher was selected the study site as Lekbeshi Municipality, Surkhet due to researchers convenience of doing research job, limited time bound of study and resource limitations. Being a public school ensured that teachers questioning practices were studied.

Total government secondary schools at study site were the population of the study. The researcher selected four secondary schools from government school in the study site. Shree Khand Devi Secondary School, Chaurase, Shree Nepal Rastriya Secondary School, Chuniyapani, Shree Jeevan Jyoti Secondary, Dasarathapur and Chandra Jyoti Secondary School, Baripati. The schools were selected through use of simple random sampling technique. The researcher was taken census of secondary level mathematics teachers and students of grade X for the population. The researcher collected the survey data from eighty students from those schools. The twenty students were chosen from per school through the use of simple random sampling process. The four teachers and four students purposively for the qualitative manner from the entire data.

Research Instruments

The researcher was used questionnaire, interview and participatory observation to collect the data. The researcher constructed questionnaire with the help of supervisor and made set of questions through the use of conceptual framework of the study. APPLE, DEAL, CLAPS, 5W. techniques were

addressed on that questionnaire. Similarly, the researcher contained students' and teachers' role on questioning and the questions that were impact on students' mathematics learning at secondary level. The researcher by self-observed the classroom questioning activity by self through the observation guideline. For the validity of tools, the pilot testing was taken. The content and context validity was checked.

Data Collection Procedures

First of all, the researcher was visited every sample school and informed the purpose of the visiting to the administrator. After taking the permission the researcher introduced the objective of the research was request to fill out questionnaire. The researcher called the respondents to asked questions on their confusion. The researcher collected the questionnaire after respondents' response on questionnaire. The non-response rate of questionnaire was reduced through follow of response. The researcher was conducted the interview from the respondents with respect to interview schedule as he was responded about the circumstances at the study site. The data from interviews consists of direct questions to people about their experiences, opinions, feelings and knowledge. The data from observations consists of detailed description of people's activities, behavior, actions and the full range of interpersonal interactions and organizational processes that of observational process, human experiences. The researcher himself visited three times at study site and observed classroom activity with reference to questioning in mathematics classroom. The researcher was noted, recorded and snap photo at the time of observation. The researcher was assured privacy, informed consent, voluntary participation, did not harmed, confidentiality and anonymity to the participants involved directly and indirectly to the research.

Analysis and Interpretation of the Results

After collected the data, the researcher organized, categorized and kept on excel format. The researcher used descriptive statistics to analyze and interpreted the results of the study through the quantitative design. For qualitative manner, the researcher was triangulated. The qualitative data analysis was conceived to be nonlinear, being taken a systematic approach enabled chronicle of the analysis process for others and provides a basis for researchers to ground their findings in their data

set. This involved exploring the general sense of the data and writing some reflections about the data. The data was then coded which involved segmenting and labelling text to form descriptions based on my research questions. The coded data were then put into categories. First, the data from interview in the tape recorder was translated in English. The themes were discussed and interpreted while referring to other sources of data that included interview and observation. Through interpretation, the themes were linked to theories of teachers' classroom questioning practices and students' questioning practice in classroom.

Results and Discussion

Section 1: Existing situation of questioning practice in mathematics classroom

The researcher collected the quantitative data through the use of questionnaire to find the existing practice of questioning in mathematics classroom at secondary level. The researcher had used MS Excel to organized and analyzed data. The researcher used descriptive statistics as frequency, percentage to analyze the survey results. The existing practices that were used through teachers and students at classroom has presented as given below: -

Use of APPLE Technique in Questioning

The researcher got the information through the use of questionnaire. The question was asked as how the mathematics teacher used APPLE techniques in mathematics teaching at classroom practices. The questionnaire was categories questioning performance of APPLE techniques into poor, somewhere and every time categories. The eighty students at the four secondary school at grade X had responded the response of the teachers' use of APPLE practice at classroom. Twenty students of each school were filled up the responses. The APPLE techniques means the questioning practice as ask questions in whole class, pause, pick a student, listen carefully and finally evaluate the questioning process. The respondents were responded their views on teachers' performance of APPLE techniques in mathematics classroom through check the option of three categories. Entire students' had responded. Thus, the response rate of opinion was hundred percentage. The notification on students' view was given freely choice of their option as no biased was taken in the time of response. The response of the students' on use of

APPLE techniques in questioning in mathematics classroom has presented on the table given below: -

Table No. 1

Use of APPLE technique in questioning on mathematics learning

		Classroom Practices that Viewed by Students					
S.N.	*Activities*	*Poor*		*Somewhere*		*Every time*	
1	Ask question in whole class	5	6.25	3	3.75	72	90
2	Pause for a whole	63	78.75	13	16.25	4	5
3	Pick a student	9	11.25	3	3.75	68	85
4	Listen answer carefully	48	60	12	15	20	25
5	Evaluate	67	83.75	10	12.5	3	3.75

From the above table 1, majority of students had responded as the mathematics teachers had asked the question in whole classroom but they had little practice of pause for a whole. Majority of students asked questions as they stand their student as pick a student first. Poor practice of listen carefully and evaluation was responded from the side of students.

Use 3PB Technique in Mathematics

The 3PB techniques exposed pose, pause, pounce and bounce in questioning process. The response of the students towards students and teaches practice of 3PB on questioning practice in mathematics classroom. The total eighty responded their views as they use those 3PB techniques or not. The classroom practice of 3PB was categories on four techniques as pose, pause, pounce and bounce. The response of the respondents has presented in the table given below as: -

Table No. 2

3PB technique in questioning on mathematics

S.N.	*Activities*	*The questioning practice in mathematics*

		No. of Response	*Percentage*
1	Pose	57	71.25
2	Pause	3	3.75
3	Pounce	12	15
4	Bounce	8	10

From the above table 2, majority of students were responded on their practice of pose technique than others. It means majority of questioning practices at mathematics classroom covered on pose techniques. Poor practice of pause, pounce and bounce in mathematics teaching learning at classroom.

Use of CLAPS techniques in Mathematics

The CLAPS technique was focused on questioning process in mathematics that how teacher and students practice of question answer and how they behave to each other at the time of questioning in mathematics. In this study, the response of the question as what activities the teacher and students focused when the question be asked? was asked. The response of students were categories on what content, the language of questioning, attention of audience, purpose of questioning and style of questioning. The number of eighty students filled up their response on questionnaire for the use of CLAPS technique in questioning on mathematics. The response of the respondents on use of CLAPS technique on questioning in mathematics has presented in the table given below: -

Table No. 3

Teachers' CLAPS technique in questioning on mathematics

In which activities, the teacher focused when the question be asked?

S.N.	*Activities*	*No. of Response*	*Percentage*
1	Content	39	48.75
2	Language	11	13.75
3	Audience	14	17.5

4	Purpose	10	12.5
5	Style	6	7.5

From the above table 3, majority of teacher and students focused on content. Poor practice of language as they asked questioning time; they were unable to participate students' attention. Poor practice of purposeful questioning was found in this study. Also, the students' responded that poor practice of better questioning practice at mathematics classroom. This implies that majority of practice of questioning focused on present mathematical content. Poor practice of language, audience, purpose and style of questioning in mathematics teaching learning.

Type of Question asked at Mathematics Classroom Practice

Types of questions is important to grade students' performance in mathematics. The researcher asked what types of questions that was practiced at mathematics classroom. The 5W questions as what, when, where, who and why types of questions that the students had to selected. The response of the respondents on what type of questioning practice in the mathematics classroom has presented in table given below: -

Table No. 4

Type of questions that practiced in mathematics

What type of questions asked?

S.N.	*Question*	*No. of Response*	*Percentage*
1	What	12	15
2	When	2	2.5
3	Where	3	3.75
4	Who	1	1.25
5	Why	62	77.5

From the above table 4, fifteen percentages respondents response that they practiced what type of questions. Similarly, more than two percentage had when types, more than three percentage had where types, about one percentage had who type and more than seventy seven percentage had why types of questions was practiced at mathematics classroom. This implies that majority of why type questions were practiced at mathematics teaching learning at mathematics classroom.

Use of DEAL in Mathematics

The respondents responded on the question how the question asked on questioning practice in mathematics teaching learning. The DEAL techniques focused on the style of questioning practice in mathematics. It means DEAL focused on how teacher and students describe, explain, analyze and link the question. The students' were responded the response of how their teacher use the DEAL technique on questioning in mathematics teaching learning. The response of the students has given in the table below:

Table No. 5

Teachers' use of DEAL in questioning on mathematics

S.N.	*Pattern*	*No. of Response*	*Percentage*
1	Describe	56	70
2	Explain	13	16.25
3	Analyze	7	8.75
4	Link	4	5

From the table above 5, seventy percentage students responded the practice of describe the question through the side of teacher but poor practice of they had explain the question meaningfully as they responded about sixteen percentage practice. Above eight percentage

students responded as they had practice analyze the question in mathematics and five percentages of students responded as they link their question from eighty students. This implies that majority of practices depended on only describe the question practice. Poor practice of explain, analyze and link questions on real life problem was found.

Level of Questions that Practices in Mathematics

Blooms' taxonomy described the students' level of competencies due to their knowledge, skills, attitudes, values, ability to do works. In this study, the researcher asked the question as what level of questions that they practiced in mathematics teaching learning. The number of eighty students responded their response based on KSAVA. The KSAVA was the competency based teaching learning practice. The responses of the students were categories on five levels of competencies. The students' response on this question has presented in the table given below: -

Table No. 6

Level of questions that practiced in mathematics classroom

S.N.	*Competency Level*	*No. of Response*	*Percentage*
1	Knowledge	36	45
2	Skill	23	28.75
3	Attitude	12	15
4	Values	7	8.75
5	Apply to do work	2	2.5

From the above table 6, forty percentage students practiced knowledge, more than twenty eight had response that they practiced skill, fifteen percentage had practiced attitude level, more than eight percentage practiced value level and more than two percentage had practiced apply to do level

questioning in mathematics. This implies that majority of students had responded that they practiced knowledge level competencies in mathematics at classroom. Poor practice of skills, attitude, and values and apply to do competencies in questioning practice at mathematics classroom rather than knowledge.

B. Impact of questioning practice in mathematics classroom

The researcher taken interview with respondents through the use of interview schedule and the researcher had taken participatory observation to gather the information of an impact of questioning practice in mathematics classroom. The researcher construct the themes after transcription of information through the use of notes, snaps of photos and documents that was recorded. The themes that was triangulated through the use of interview and observation with the theories has presented as given below: -

Engagement and Motivation on Questioning in Mathematics Classroom

Questions were mainly used as an instrument towards making learners understand mathematics and also, as a linkage of new knowledge to old knowledge. In this theme, frequency of questioning, level of questions, and how the level was influenced by questioning patterns and wait time, and the type of understanding that is brought forth was discussed. The researcher took interview with four teacher of secondary level on how they engage and motive their students in questioning practice in mathematics. The researcher attempted to rapport building to the responded for their convenience. After then the researcher asked a question as how the respondents engage and motive their students on questioning practice in mathematics classroom? Majority of teachers' were used questioning strategy to engage students, to find students' pre requisite knowledge, to warm up, to involve in participation and to find students' level of understandings. They used practice of questioning to follow up students' response of lesson, to manipulate solution of the problem through the side of students and to know what students' learned and what should be delivered.

"*Teacher ask questions on their warm up phase, follow up students' response, to engage students on their learning practices and motive students in learning.*" (Teachers' View)

"*I pick students turn by turn at the time of questioning. But students are feeling odd if I pick student to questioning. I feel, students have asked questions on group is effective than pick a student.*"

(Teachers' View)

"*Students are feeling motive as they have given appropriate feedback after questioning. Questioning is continuous assignment for teacher and students also. Teacher starts their lesson through questioning and evaluating their lesson through questioning. Thus, questioning is the weapon of teacher to regular communicate with students to know how students learn mathematics*".

(Teachers' View)

The students the opportunity to critically review their approaches to studying and the acquisition of competencies as well as support and develop their own assessment of their skills and competencies. Student engagement as a primary pathway by which motivational processes contribute to students' learning. Students' motivation is affecting positively their learning outcomes (Martin, 2003). Cognitive engagement, which refer to students' personal commitment with their learning. Behavioral engagement, which represents students' participation in classroom, school and after-school activities. This includes adhering to behavior rules, attending lessons as required and arriving at classes on time. Emotional engagement (also as affective engagement), which reflects students' affective reactions to school, teachers and peers (Fredericks et al., 2004). This indicated that students should have their engagement and motivation on questioning at mathematics classroom. Students' cognitive, behavioral and emotional engagement motive students to involve on mathematics learning.

Variation of Questioning Strategies in Mathematics Classroom

The researcher asked the question to the students as what type of question do you ask at the time of teaching learning in mathematics.

"*My mathematics teacher ask me definitions, ask me to give examples, give problems to do and ask questions as we have problem on my daily live situation*" (Students' View)

"*My mathematics teacher ask questions based on old practice book. Knowledge, understanding, applicable and higher ability type of questions are asked*." (Students' View)

"Teacher ask easy, medium and hard questions on the time of lesson. First of all he say different examples and ask definition. Then, teacher run his lesson and ask formula to calculate problem. Finally, teacher ask questions of difficulty level" (Students' View)

Good questioning techniques have long been regarded as a fundamental tool of effective teachers and research has found that differences in students' thinking and reasoning could be attributed to the type of questions that teachers asked (Wood, 2002). Past research shows that 93% of teacher questions were lower order knowledge based questions focusing on recall of facts. The way to categories questions is according to the level of thinking they are likely to stimulate, using a hierarchy such as Bloom's taxonomy (Bloom, 1956). Bloom classified thinking into six levels: Memory (the least rigorous), Comprehension, Application, Analysis, Synthesis and Evaluation (requiring the highest level of thinking). From the above quotation of teachers and students responded through the use of interview, the teacher needed to ask due to all competency level of learning in mathematics. The KSAVA technique was needed to apply in questioning in mathematics teaching learning. It must avoided the problem of hesitation habit due to regular practice of questioning with level of competencies of learning.

Impact of Questioning Practice on Students' average GPA

The researcher took interview with the respondents on impact of questioning practice on students' achievement at secondary level. The newly revised curriculum of grade X recommended the four level of questions as Knowledge (K), Understanding (U), Ability (A) and Higher Ability (HA)

for grade X. The researcher took the interview with teachers on impact of questioning practice in mathematics and students' average GPA. The respondents replies as:

> "*Teachers teach mathematics through the use of textbook, resource books and practice book. The students demands their learning delivery due to model questions. The newly lunched curriculum prescribed four level of question as K, U, A and HA. The majority of my students are unable to correct the A and HA level questions due to lack of their questioning practice for those. However, my students able to attempt K and U level of questions at grade X.*"
>
> (Teachers' View)
>
> "*The questioning practice is key function for learning mathematics. Questioning practice facilitate us to engage, access, involve and clarify the concept, concise and content (3C). We achieve big score when he attempt to participate in the practice of questioning in mathematics learning.*"
>
> (Students' View)

Behaviorism is defined a set of rules for exploring and explaining the complex mathematical behavior through the practice of questioning practice in teaching learning mathematics. By the Vygotsky's ZPD, the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peer (Campbell, 2008). This implies that students questioning practice have positive impact on students' achievement in mathematics. However, students had more practice of questioning due to types and level of questions as their competencies.

Conclusion

This paper brings to focus methods of the questioning to facilitate effective interaction in secondary level mathematics classroom. The practice of questioning depend on students' reaction that how students performed their sense organs through their action. In this study, majority of questioning practices were done but the students level of practice were mismatched and out of planning. To realize

this, teachers are required to be aware of these questioning strategies to equip them to effectively handle mathematics classroom. Relevant methods and strategies include metacognition, self-regulated learning, and inquiry learning through asking mathematical questions and learning questions. Questioning in mathematics is always a key feature of mathematics lessons to nurturing of curiosity in students. Right ways of questioning practice derive students' learning on positive way and immature practice of questioning a cause of noise and results unproductive. The practice of questioning impact the students' mathematics learning but it is not only the factor of mathematics learning was found. The study was studied at small area due to researchers' boundaries of time, economy and other extreme variables. The comparative study on questioning practice on mathematics classroom and their effect on students' achievement in mathematics at school level in Nepal should be recommended for further study.

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