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Teachers' Perceptions of Assessment in Mathematics as Students at Secondary Level

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ABSTRACT

This paper focuses on my study of a narrative research inquiry and interpretative paradigm under a qualitative research approach of in-service secondary level mathematics teacher of Kavrepalanchok district in Nepal based on my research. The study included five in-service teachers from the district chosen using a purposive sampling strategy. As a data collection strategy, I conducted in-depth interviews utilizing interview guidelines to elicit the narrative stories of response participants. I used qualitative data analysis methods to transcribe the participants' shared tales in order to generate themes.

I gained the insight that absolutism and positivistic notions of mathematics education had influenced assessment practices in Nepal fifteen years ago from 2005 AD to 2020 AD. At the time, constructionist education for creating mathematical knowledge through assessment was uncommon. To enable mathematical learning, the students had fewer possibilities for competition-based learning, engagement, communication, and teamwork. Furthermore, the curriculum design of secondary level mathematics at that time was exclusive to focus on students' need, interests, and individual learning capacities Instead, math teachers took mathematics as a subject for gifted children and did not focus enough attention on individualized education for low-performing students.

Students learned mathematics designed with a disengaged curriculum, non-participatory teaching, and insufficient evaluation using technology. Mathematics teachers did not frequently choose to develop a questioning environment in the classroom as part of the students' assessment. By focusing on summative assessment and paper pencil tests as a typical assessment approach, teachers overlooked student variety. Students lacked motivation, feedback, and encouragement from teachers when it came to assessment, which resulted in poor academic performance. Because the mathematics textbooks were published in English, students frequently had issues with the medium of instruction, particularly at the plus two (+2) level or equivalent to the intermediate level.

KEYWORDS: Assessment, Curriculum, Non-participatory, Perspectives, Practices.

INTRODUCTION OF ASSESSMENT

According to Thompson et al. (2018), teachers should engage students in both content and process to ensure that students develop robust mathematics proficiency such as procedural competency, critical reasoning, knowledge acquisition, productive inclinations, and conceptual understanding of current mathematics education perspectives. A variety of educational and practical activities in mathematics assessment challenges needs their solution for the betterment of educational system. These solutions help to gain a better understanding of student concepts and provide important and substantial feedback. The concept of assessment has evolved from global and national to local perspectives as the framework of outcome-oriented education has expanded. Students must learn numerous skills and knowledge. They need to develop this understanding through an integrated approach to education and evaluation so that they achieve a successful outcome.

Acharya (2019) stated that assessment is the process of determining the educational status of students, their performance, and the overall success of programs by making judgement of students and efficacy based on a variety of sources of information. Assessment on talents, knowledge, capacities, attitudes, skills as construction has proven to be a

challenging work. The dimensions of socio-economic backgrounds, learning environments, curriculum, access to learning resources, personal traits of students, pedagogical practices are some examples that are difficult to assess and accomplish in regard of students' assessment (Dahal, 2019). However, conducting paper-pencil tests to grade students at the completion of the academic year has been common practice in school education. Even the practices of assessing students in Nepal are not far from such paper-pencil tests and periodic examinations. This can only measure the purpose of remembering, literal information, operational strategies, and talents to answer book-based regular questions. It cannot widen cognitive potential of students through constructivism.

In my experience, similar to Acharya (2019) as a mathematics teacher, and a researcher, main goals of the mathematics assessment should be to encourage students to think creatively, imaginatively, and critically. It uses a variety of assessment methods to determine whether each student has developed the ability to overcome obstacles in their academic, professional, and personal lives. This encourages students to engage in democratic and culturally fair behaviour in society, as well as institutions and practices that can investigate their diverse abilities. As a result, a larger viewpoint and new platform of mathematics assessment at the secondary level is necessary to explore.

Rosli et al. (2013) mentioned that mathematics practice should take steps forward to improve the assessment tools from traditional to more authentic assessment to measure learning of students holistically. The assessment system for the evaluation of students performances during every academic year has become a major issue of discussion among scholars and teachers (Shrestha, 2017). New perspectives on assessment advocate for activities to be integrated into the curriculum, with the idea that assessment should be an expansion instead of a disruption of the learning process (de Lange, 1999). This enables stakeholders to take ownership of the planning, implementation, and analysis of student assessment. New situations, such as growing heterogeneity and multi-culture in the classroom or innovative technical opportunities, necessitate ongoing adaptation of assessment. Assessment enables stakeholders to explore and experience the procedures for constructing mathematical knowledge, as well as develop and construct critical thinking skills. The majority of currently used assessment frameworks ignore the educational context that teachers encounter in their classrooms (Thompson et al., 2018). Perceptions and practices of assessment may have variations over time bound. Thus, I investigated the perception of secondary mathematics assessment as experienced by in-service teachers as students between from 2006 AD to 2020 AD.

LITERATURE REVIEW

Dimensions and Approaches in Assessment

The research report prepared by Bass (2004) entitled 'Developing Assessments to Inform Teaching and Learning', aimed at finding actual classroom programs available in a variety of topic areas and grade levels. It established numerous assessment design features that allow teachers and students to explain progress in terms of skills development and then act on those skills to enhance learning. The report concluded, similar to the ideas of Ginsburg (2009) that the assessment does not, in and of itself, lead to specific classroom procedures, but it does indicate challenges, mathematical thinking processes, and relevant teaching ideas that can lead to larger teaching techniques.

Peribam (2005) stated four different approaches in assessment. They were formal and informal assessments for product and process, as well as formative for continuous assessments and summative for final assessment of students. They were particularly interested in formative assessment as assessment of learning and summative assessment as assessment for learning. As a result, they advocated using various types of assessment for constructive feedback to improve, inspire, and empower each student to perform or learn something effectively. This process makes adjustments that will help students succeed. They argued that formative assessment allows teachers to provide feedback regularly during instruction. Their study concluded that formative assessment is the best assessment approach for the acquired achievement tests of students.

Marynowski studied (2015, as cited in Suurtamm et al., 2016) over the course of a year, a group of secondary mathematics teachers collaborated with a trainer to co-create formative assessment opportunities and approaches. Some teachers commended the real-time feedback on development of students, but other teachers said that the children were resistive. The findings from the study could help students enhance their academic performance in mathematics and other areas.

The research conducted by Goldman & Pellegrino (2015) highlighted that classroom assessment can be supported by the content and characteristics of assessments, as well as the use of assessment results and assessment integration. The study concluded that, from the perspectives of teachers and students, the development and implementation of assessment systems with substantial outcomes is critical. They found that motivations of teachers influence the assessment and learning of students.

Dahal (2019) categorized four different dimensions of assessment. They are formal and informal, formative and summative, final and continuous, and assessment for product and process. Among these, formative assessment involves using a variety of educational strategies along with constructive feedback to develop, inspire, and push each student to achieve or acquire something new. It is widespread throughout education and initiates teachers to provide ideas

and feedback for adjustments that help students succeed. It could be the best justification for the relevance of formative assessment in the classroom.

Assessment Context of Brazil, Bangladesh, and Nepal

Camargo (2015) conducted research on "Teachers' Perception and Use of Assessment Information: An Exploratory Study of Mathematics Teachers in Brazil" intended to find out approaches applied by secondary school teachers to assess their students. The responding teachers were asked how often they used various assessment methodologies or techniques, and their importance to them. According to the findings of the survey, the most common methods of evaluation used by mathematics teachers were tests and homework assignments. However, they used self and peer assessment on a minimum scale.

School Based Assessment is the continuous assessment progress made by students that takes place throughout an academic year as a key aspect of the students learning (Begum & Farooqui, 2008). They explored the challenges that arise from the arguments of scholars about SBA and its possibilities in Bangladesh. The purpose of the evaluation system was to help students enhance their problem-solving abilities and their cognitive abilities. They found that the curriculum guides the assessment system in Bangladesh. It only examines memorization and comprehension abilities of students. The research uncovered some interesting data about expertise and honesty of instructors to adopt this new assessment system. It showed that teachers provide continuous feedback to students using SBA to help them learn more effectively.

In the context of Nepal, the secondary assessment system aims to improve the educational quality by raising learning achievements. A successful assessment system is an essential component for improving educational excellence and learning outcomes because it provides the useful basis needed to meet decision-making demands of stakeholder. "Assessment systems are often made up of three different types of assessment activities, each of which serves a particular function and meets various information purposes" (World Bank, 2012, p. 2). Classroom evaluations, periodic examinations, and final standardized system level assessments are the three major assessments at the secondary level.

According to Poudel (2016), the primary goal of assessments is to provide policy input to the educational system and to create evidence-based statistics for tracking improvement over time. In this context, classroom assessment generates real-time classroom instruction. To measure student learning in the classroom, teachers apply numerous tools of assessments, such as homework, project work, quizzes, and teacher-made unit tests. Examinations select or qualify students as they continue through the school system from one grade or level to the next. Examinations include major areas of the curriculum and typically include long questions, short questions, and purpose test items. "In Nepal, the outcomes of large-scale assessments have influenced policy discussions and education system design" (Poudel & Bhattarai, 2018, p. 12). System-level and large-scale assessments offer input on the functioning of the educational system at specific grades or levels.

METHODOLOGY

Interpretive Research Paradigm

The interpretive paradigm assisted me in reflecting on the significance of respondent participants' narrative accounts regarding their perceptions and practices in mathematics assessment. The new meaning can be drawn from interpreting and reflecting upon mathematics teachers' narratives, based on the context of my own and my contemporaries thoughts (Dahal, 2017). Thus, I selected an interpretive research paradigm for my study. As stated by Denzin & Lincoln (2018), I attempted to find out how mathematics assessment is done through the experience of mathematics teachers in my research. Interpretive research design in educational research enables researchers to study the life-world experiences and classroom practices of research participants (Taylor & Medina, 2011). In this study, I used an interpretative paradigm to build a reflection of the respondents' understanding of context in other situations.

This paradigm supported me in gaining a better knowledge of personal experiences of the respondent participants in mathematics assessment. I strove to see the world through the eyes of a researcher who focuses on interpretation of reality with the help of an interpretive paradigm. I interpreted the life stories of the respondent participants, focusing on the natural setting. Rather than the exterior information they would have perceived, my attention and concerns in the interviews with the respondents focused on retrieving their inner interests, opinions, and real activities linked to mathematics assessment.

Narrative Research Inquiry

To gain a reflective understanding of teachers' perspectives on assessment in mathematics classroom instruction, I employed a narrative research inquiry. This led to an interpretative paradigm in which I investigated the assessment perceptions and practices of secondary mathematics teachers in Nepal. Dickinson (2012) stated that narrative inquiry is 'the story of stories'. Narrative inquiry begins with an understanding and representation of reality through stories shared by the respondent participants. In narrative studies, I established a close relationship with the respondent participants. They may gain benefits by sharing their stories because they enjoy doing it. By telling their own stories, people are able to comprehend and identify issues and remember what they have learned (Creswell, 2007). The narrative research inquiry describes the real-life and behaviour of participants. They narrate their experiences, collect, and retell their stories about the research topic.

Dickinson (2012) stated that the intention of a narrative inquiry is to discover more about a specific situation, or a specific set of actors, or a socially constructed phenomenon. In this study, I encouraged participants to share their personal stories. For this, I conducted interviews in an informal conversational tone. Creswell (2007) stated that individual experiences through narrative stories could reveal insight into the identities and perspectives of people over emerging issues. Hence, throughout the conversations, I used narrative inquiry with emphasis on the views, beliefs, practices of mathematics assessment, and perspectives of respondent participants in their own words.

Sampling and Data Collection

A sample is a portion of a larger group that chosen to be typical of the complete group. According to Paton (1990), qualitative research usually focuses on small-sized samples, even single cases (n = 1), that are chosen purposively. Qualitative research focuses on small groups of respondent participants. The data for my study were obtained from the experiences and stories offered by responding participants in in-depth interviews. I adopted purposive sampling technique in my study to account for these characteristics. Five in-service secondary mathematics teachers who used a variety of assessment methodologies and approaches in their classes were respondent participants in the study. The respondent participants in Kavrepalanchok district had a diverse range of viewpoints on training, experience, recruiting, appointment types, religion, socioeconomic background, and other themes to cover a wide range of knowledge construction.

Source of Data Collection

In order to delve further into issues and cover a wide range of topics over a long period, I employed in-depth interview techniques. The interview is a very flexible and common method of gathering field data. Guba & Lincon (1981) remarked that it is practically impossible to access inside an individual's experience without face-to-face and verbal engagement. As a result, interviews are a significant source of data for obtaining answers to the research questions. According to Dickinson (2012), the researcher and the researched co-construct their experiences and interpretations of the stories while engaging in meaning-making discourses. The interview is a two-way conversation between individuals impacted by the participants' socioeconomic backgrounds, the course of the contact, and the responses given. As a result, I established a reality of participants based on a shared interpretation of the encounter's distinctive interactional episode. I discovered a range of atypical forms of speaking that represent mathematics teachers' attitudes, methods, and understanding of assessment in the mathematics classroom utilizing narrative stories and interview guidelines.

Narration through Stories of Respondents

Through an in-depth interview, I was able to obtain the necessary information from the research participants. I took notes on electronic devices and afterwards saved them on data memory devices. In addition, with the approval of the research participants, I made scheduled visits to collect data. For this, I received their previous agreement to the data collection's use, purpose, and relevance. These interviews were the primary source for this study. I performed in-depth interviews with open-ended questions as per the interview guideline. I stayed in touch with and visited the respondent participants until the data was saturated and sufficient for my research. Every week, I reported and reflected on the story in conversations with the responding participants. It took approximately two months to complete the process. I made audio recordings of the interviews and then transcribed them to ensure that the interview transcriptions were accurate with respondent participants. For authenticity purposes, I emailed a summary of the interview transcripts to the concerned respondent at the outset of the next interview. Before the second interview, I also gave the respondent participants the summary sheets from the previous interview.

Transcribing of Narratives

On the same day as each interview, I translated the audio recordings in a quiet spot at home. To protect the secrecy of each respondent's response, I accurately transcribed the audio recordings of the interviews. To keep the teacher's voice intact, I transcribed the interviews, laying the focus on the speaker (Christopher, 2017). I recorded teacher discussions for the purpose of anonymity; the identities of the respondent participants, their institutions, and their addresses are all pseudonyms. As a result, any revealed names may help to protect the anonymity of everyone involved. After transcription, the recordings are stored with sufficient security precautions. After a few days, I went back over the transcriptions to ensure a more individualized interview for each respondent's first and second interviews. I created supplementary inquiry questions for interviewees wherever possible, allowing me to amend, clarify, or add to whatever addressed in the previous session.

Creswell (2009) stated that analysing the qualitative data refers to the process of sense making through the texts and images collected to answer the research questions. This includes the entire process of evaluating and producing insights from raw data. To process the material I gathered through multiple interviews, I employed qualitative methodologies. The triplicate versions of such material that I prepared while transcribing the narrative accounts reduced the chance of missing important primary sources of data and information. I analyzed the textual data using the qualitative analysis process, which includes data/information categorization, topic development by stacking significant themes, reporting findings, and finally qualitative tool interpretation. Then I kept coming up with new ideas for themes based on similar and related codes. I went over the transcribed material and made multiple matrices to help me synthesize and understand the main concepts. During transcription sessions, I used Google translator to translate

spoken Nepalese text into English). In addition, I double-checked the accuracy of the translation by rewriting the lines in my diary. Individual respondent participants' verbal identification and explicit interruptions were removed from the transcriptions.

In summary, to get a better comprehension of the stories I used Aronson's four-stage theme analysis methodology to conduct thematic analysis of the interview transcripts utilizing manual coding approaches (Aronson, 1995 as cited in Dahal, 2017). These initially comprise data collecting in the form of interview transcripts. Second, I identified the direct quotes and paraphrased the shared narratives. In the third stage, I combined related patterns into themes. Then, in the last stage, I established a plausible and logical argument concerning the selection of study topics and the development of a storyline. This stage aids readers in comprehending the research process, motivation, and results. As a result, for the meaning-making process, I focused my thematic analysis on the content and context of a text.

Meaning Making of Narratives

I began the process of making sense of the information I had received by evaluating it. I obtained data from interviews with respondents that were presented as stories because narrative inquiry is a technique for presenting information. I generated patterns regarding mathematics evaluation from the participants' narrative descriptions that were veiled beneath their voices. It helped me to understand and to communicate new ideas (Riessman, 2008 as cited in Dahal, 2017). I made a narration out of spontaneous interviews with responses. Each interview has its own individual aspects based on the feelings expressed in the responses, such as disclosing their feelings towards math evaluation. Themes were created through multiple readings (Josselson & Lieblich, 2009) of the full transcriptions of each interview session making an expert uses of an experience-centred approach (Squire, 2008). I used three guidelines as stated by Squire (2008) for the narrative analysis. From each interview, I developed themes and provided analytical interpretations. Finally, I used top-down and bottom-up data interpretations to answer the research questions (Dahal, 2017). I made the triangulation among the participants' narration, theories, and the themes on meaning making process.

RESULTS AND DISCUSSIONS

From my study, I found the following results by meaning making of the analyzed qualitative data. Further, I have made discussions on these results.

Lack of Personalized Instruction

In the mathematics classroom, personalized instruction is educating students individually to attain learning outcomes through assessment. It is appropriate for pupils with low academic achievement and those from economically challenged backgrounds. The enormous class size, however, makes it challenging. I believe that employing the strategy all of the time in our educational setting is challenging. Teachers to satisfy their students' specific interests usually use it. This appears to be crucial since students may not always understand the concept of mass teaching from teachers.

When students' abilities and accomplishment are inadequate, teachers in a heterogeneous classroom should adjust their education to fit the requirements and levels of academic competences of individual pupils. The success and effectiveness of a teacher's teaching determines a student's academic progress. "Every individual has their own understanding, assumptions, values and prior knowledge through which they construct their own reality" (Dawadi, 2018, p. 49). Because teachers' instruction and classroom practices differ in many ways, they may differ in how much they adjust their instruction based on students' academic progress. Many factors play a role in this change, including teaching experience, teacher training and pedagogical approaches, and the number of students in the classroom.

Teachers should provide support to students in order to help them learn more effectively. As suggested by Ampadu (2012), variations in individual learning are one of the most difficult challenges that instructors encounter in the classroom as they try to support exceptional instruction. As a math teacher, I have learned that mass math teaching may not serve impoverished, delayed, underprivileged, or marginalized pupils. For these individuals, individualized schooling is critical. Individualized teaching aids in the attainment of mathematical equality and justice. In a diverse classroom, instructors adapt individualized support to individual students' needs and academic capacities, resulting in poor accomplishment regardless of evaluation measures utilized.

Disengaged Curriculum of Mathematics

Despite the fact that mathematics is a practical subject, I discovered that engaging students with mathematics problems in the secondary mathematics classroom in our Nepalese environment has proven to be a challenge for instructors. In the eyes of students and instructors, the evaluation of mathematics envisioned in the present secondary mathematics curriculum has surpassed practical and constructivism. All of the research participants voiced severe unhappiness with the mathematics curriculum for not offering a method for practical evaluation in mathematics during interviews. They have established a compelling argument for the incapacity of secondary mathematics curricula to focus on practical assessment. In grades IX and X, there are no marks assigned to practical work in either the compulsory or optional mathematics curriculum. This is true for grades XI and XII as well. In a three-hour board examination, mathematics has one hundred full-mark test items. The assessment system, according to the respondents, was also unjust in terms of social fairness. They criticized the

current assessment policy in secondary mathematics in different areas.

According to Pant (2015), curriculum as contents, specific activities and concepts, and cultural reproduction are the three basic representations of mathematics curricula in Nepalese schools, all of which promote a monoculture worldview. There is a conflict between the classroom context and the outside world, which leads to unfairness in the classroom. In relevant activities outside of school, working-class students are capable of higher-order arithmetic processes, but they struggle with so-called "academic mathematics" in school. This urges the necessity of everyday mathematical activities in the school curriculum. In these contexts, Luitel (2009) advocates modernist curriculum frameworks are characterized by prescriptive language, simplified portrayals of scholastic reality, and one-dimensional educational purposes. Furthermore, the mathematics curriculum in Nepal is a centralized document without addressing the demands and aspirations of the local context of the students. Replication, silence, and author's text are features of this type of curriculum.

In a centrally prepared curriculum, there is less participation of all the stakeholders. Therefore, it has to face challenges in its full-fledged implementation. Implementation of the curriculum is successful with managerial perspectives and pedagogical ones. "Curriculum contextualization is basically intended to bring teaching-learning process closely to students' realities" (Dawadi, 2018, p. 137). The focus of mathematics education reform should be on a system of practical assessment. Academics and educators who construct and change the curriculum, in my opinion, do not tackle these problems adequately.The focus of mathematics education reform should be on a system of practical assessment. Academics and educators who construct and change the curriculum, in my opinion, do not tackle these problems adequately. Mathematics pedagogies or tactics that necessitate various classroom practices and skills include cooperative learning, exploratory activities, the utilization of shared resources, and the use of computer technology

Non-participatory Teaching

Traditional non-participatory teaching methods make it difficult to improve students' math learning outcomes. With a larger number of pupils, mathematics teachers of respondent participants were unable to have all students participate in various activities. I regard this as Lamichhane (2018) stated that positivist thinking mainly drives traditional mathematics education practice and behaviourist approaches to classroom instruction in terms of mathematics assessment. The majority of mathematics teachers adopt one type of non-participatory teaching, which does not demonstrate the link between classroom mathematics learning and its application to real-life situations. Students are more motivated to study mathematics when teachers utilize a participatory teaching strategy. Respondent participants stated that they did not have a problem with non-participation in their mathematics classes as students. They were actively included in the assessment in mathematics class due to the reduced number of pupils in mathematics class. Both their professors and pupils formed deep ties with them. They studied mathematics more effectively and performed better on assessments. Students' perspectives are valued, and there is a greater emphasis on deeper understanding than in ordinary classes, with less emphasis on surface learning (Panthi, 2016). However, teachers cannot easily adopt a participatory approach because of classroom problems. Different managerial factors related to teaching pedagogy affected their understanding of mathematics.

Traditional mathematics training relies on memorizing facts and obtaining solutions. Students are frequently disengaged and unable to solve complex and innovative problems. In this context, Luitel & Taylor (2006) argued that classroom environment in mathematics education is pervaded by the underlying premise that the aim in curriculum of mathematics is to impart ideas to passive recipients, as if the subjects are waiting to be injected with meaningless concepts. I recognized that using teacher-centered strategies is one of the challenges to addressing assessment needs in the mathematics classroom. Instead of engaging pupils and encouraging them to solve problems creatively, this form of classroom education emphasizes on achieving the right answer and retaining facts, creating an absolutist view of mathematical learning.

Inadequate Use of Technology in Assessment

There has been a rapid development of modern technologies, which teachers can utilize effectively in their classrooms. Despite the fact that ICT has been incorporated into school and higher education curricula, just a few schools and colleges have put it into practice (CDC, 2007). The majority of Nepalese schools lack adequate teaching equipment. There are a variety of reasons for the lack of ICT tools, including low economic conditions, a lack of enthusiasm for using them, and inadequate training and skills. CDC (2007) has accepted that a shortage of proper infrastructural facilities, a comfortable workplace, and knowledgeable resources are still in academic institutions. I contend that in the twenty-first century pedagogy, skills and knowledge in the use of ICT have had a major impact on mathematics teachers. Shrestha (2017) voiced that in the process of obtaining skills and expertise in complex mathematics instruction, he applied ICT pedagogy and its integration into the classroom to break the rhythm and rhyme of his linear teaching. Many schools lack the necessary infrastructure, and only a few have computers or phones. Apart from computers, most Nepalese secondary schools lack projectors, monitors, notepads, modems, internet connectivity, and supplementary storage devices.

According to respondent participants, secondary schools have restricted internet connectivity in Nepal. Computer labs and the requisite equipment are not available in schools. As a result, promoting equity in the mathematics classroom has proven tough. It necessitates the use of practical mathematics in which students learn through doing and reflecting. As such, I feel that it is necessary to change teachers' perceptions of mathematics. Belbase (2015) focuses that a teacher has own choices of using technology in mathematics instruction. I argue that it is better to build an integrated curriculum by using ICT in mathematics instruction, though this is challenging work.

The present secondary school curriculum does not address the use of technology in mathematics instruction. Concentrating on necessity and importance of ICT, Pant (2015) demands that that the incorporation of technology and digitalization improves students' exposure to mathematics in a fair and equitable manner. He further argues, "I have also come to believe that technological tools can be potentially used to make mathematics more dynamic through multiple representational systems, a basis for creating a useful, adaptive and meaningful mathematics learning environment" (Pant, 2015, p. 127). As the twenty-first century is the age of ICT, it should be a tool for educational transformation. It would be preferable to update the mathematics curriculum in accordance with societal needs and demands. Furthermore, due to our prior socio-political makeup, various disadvantaged groups, including females, have low involvement and performance in mathematics. These target groups can be connected using assessment tools related to ICT to ensure their inclusion in the mainstream of mathematical instruction.

Lack of Questioning in Mathematics for Assessment

Teachers of mathematics should engage students in conversation by asking questions and offering exercises. Each student's reasoning can be stimulated, involved, and encouraged by using a questioning method. The participants in the study did not ask their math teachers any questions about mathematics understanding and assessment. The scenario called for the teacher to take an active role in the classroom, akin to typical classroom discourse. Teacher-student inquiry increases both student learning and the teacher's self-evaluation of curriculum delivery performance. Until it arrives for questioning by students in mathematics, teachers are unaware of the additional challenges that may develop (Dahal, 2017). He continues to state that excellent questioning distinguishes between confining thought and encouraging new answers. In recent years, teachers in mathematics classes have been under increasing pressure to provide a good learning atmosphere. Teachers attempt to pique students' interest in attaining the highest possible grade, which can be accomplished in the mathematics classroom by developing a questioning environment.

Teachers must understand not just the numerous types of questioning methods, such as opener questioning, discourse, inquiry questioning, evaluation questioning, but also how to apply them to encourage mathematical ideas (Dahal et al., 2019). As a result, mathematics teachers must teach mathematics in a questioning environment in the classroom in order to increase students' comprehension. Teachers should not only use textbook questions in their classes; they should also include real-world scenarios that may or may not have a single ideal solution.

Negligence to the Diversity among Students

. Respondents in my study agreed that their mathematics teachers were simply trying to pass on information from the textbook to their students. The students were passively receiving the teacher's feedback without question or discussion. The teacher's teaching approaches were consistent for all students, regardless of their particular differences. Mathematics teachers, according to the respondents in my study, paid little or no attention to their students' degree of knowledge and application of mathematical content in a variety of contexts. Mathematics evaluation must be incorporated into multicultural education in order to empower students' mathematics learning.

Acharya (2015) remarked that cultural diversity necessitates systemic school transformation, since it must encompass all parts of the school system and administration. Inclusive education aims to give all students an equal opportunity to learn while also inspiring them. The lack of variety in classroom activities, according to respondent participants, hinders kids from participating in the activities. Such a teaching practice does not take into account the realities of individual variances in student interests. As a result, many students, particularly those from lower intelligence groups and marginalized cultural communities, struggle to learn mathematics, forcing them to rely on assessment to achieve the required learning objectives.

The teacher must be aware of their pupils' interests, the nature of mathematics, cultural obstacles, mathematical content, and its connections to social beings. Because mathematics is such a dynamic science, it will be easier for pupils if the teacher can connect mathematical ideas to real-world events. Perspectives on mathematics knowledge are equally crucial for the construction of concept-based mathematics instruction. Mathematics teachers, on the other hand, are textbook-oriented, and the majority of them do not even use the national curriculum when teaching mathematics (Acharya, 2019). Some of the influential factors that directly or indirectly affect the process of learning mathematics include the nature of mathematics knowledge, the old classroom structure, the chalk and talk method of teaching, teachers' lack of knowledge of culturally friendly pedagogy, and teachers delivering content in their own way without conceptualizing its relevance to the students' cultural realities.

In the same way, the teacher's pedagogy reflects the banking concept of education. Freire (2000) commented that on the current education system in which the teacher is a knower, source, or giver who pours his/her knowledge into the blank minds of the students as a depositor, and the students receive patiently what the teacher delivers. As a result, the teacher communicates his knowledge to the students' blank minds. Effective teachers encourage students to participate actively in learning activities, whereas incompetent teachers use a teacher-centered approach and aim to keep the classroom quiet. As a result, we should make our classroom teaching more democratic. The pedagogy becomes culturally acceptable, and Nepalese mathematics education becomes culturally relevant as a result.

Lack of Engagement of Students in Assessment

According to Fung et al. (2018), mathematics teachers are required to encourage pupils to participate in innovative mathematics activities in their schools and to intellectually excite their students intellectually in the classroom. The major concern is that students memorize knowledge and retrieve accurate information from the textbook. Consequently, there has been a lack of contextualization and awareness of the issues our students experience in the mathematics classroom on a daily basis, as well as the opportunities for increasing mathematics learning that exist in Nepalese schools. When students consider mathematics to be a necessary subject, they need to be fully engaged in assessment due to the complexity and rigour of the subject. Teachers and students might feel difficulties in a culturally diverse classroom. This is because students may be from different cultural backgrounds and philosophy, and the culture of teachers and students might not match with those of students. The situation prevents students' engagement in mathematics assessment.

Focus on Summative Assessment and Paper-Pencil Tests

The summative form of assessment cannot measure the learning achievement of students during mathematics teaching in the classrooms. In Nepal, standardized tests and summative assessment are commonly used to assess students' academic success (Dahal, 2019). In contrast to the prevalent technical justification, I emphasize the importance of fostering educationally based evaluation methodologies. In contrast to summative assessment, formative assessment tries to detect and correct students' difficulties through assignments that provide feedback to both the teacher and the students, allowing for improvements in teaching techniques and student learning.

Formative assessment has become an essential aspect of students' assessments in order to increase their belief and understanding of mathematics. According to Regier (2012), in scholastic documents, teacher preparation courses, and curriculum, formative and summative assessments are emphasized. Summative assessment has a minor role to increase student learning. However, formative assessment can improve learning of students with continuous feedback from teachers and peers. There have been some conceptual breakthroughs in assessment for learning through formative assessment, but not in assessment of learning by summative assessment. As a result, all types of formative assessment are vital in classroom instruction. Dahal (2019) stated that to enhance students learning, formative assessment must be designed as an integrated part curriculum at all levels. Thus, assessments can empower and search for hidden talents and capacities of learners.

According to Bhandari (2016), paper pencil tests conducted in Nepalese schools do not measure the multiple intelligences of students. For instance, a student getting maximum marks in mathematics assessment does not necessarily mean that he/she is suitable in all occupations. Because they do not immediately reflect the student's understanding, paper pencil assessments are insufficient to assess all students' capacity to learn mathematics. Current school assessment methods do not take into consideration the motivations and needs of students from different aspects (Acharya, 2019). The assessment must look at the students' thinking skills, with the goal of discovering their natural ability to learn. The students will prefer mathematics learning and teacher are capable of catering their specific needs and interests. Lamichhane (2018) stated that in Nepalese context, even in the selection of teachers or any other governmental jobs, the paper pencil tests are given priority rather than the experiences. A student who gets a lower score in one subject or area may not equally be poor in another subject or area (Bhandari, 2016). Furthermore, sometimes students may be efficient in the theoretical study but not so much in the practical course.

Three hours of examination as a tool in assessment, used through pen and paper, cannot be appropriate to judge the different potentials of students (Dahal, 2019). The summative type of evaluation leaves no space for the students to participate in a group and has its biasness in teacher-centred pedagogy. Such pedagogy does not lead students to relate their school learning to practical applications. It compels them to consider mathematics knowledge as absolute and infallible. The traditional methods, like rote learning, memorizing, and parroting do not support to acquire mathematics knowledge for deep learning. Bhandari (2016) further stated that the examination system in Nepal places a greater emphasis on theoretical learning and pays less attention to practical learning. I agree that children become more active when the teacher treats them individually when using culturally appropriate assessment strategies for students. The knowledge learnt in school must be transferable to students' behaviours or real life.

Lack of Motivation and Encouragement in Mathematics

In the narratives of respondent participants, they have expressed the views that their mathematics teacher did not motivate them to mathematics learning and its

assessment. It is bitter that their mathematics teachers in the teaching learning activities ignored the participants. Teachers' intention was to complete the course as soon as possible. Despite the fewer students in the mathematics classroom respondents in my study were dissatisfied with their mathematics teacher not for caring and motivating them in assignment and assessment activities. According to Um (2008), students' motivational factors, such as ego and consciousness, have an impact on performance. For this purpose, teachers can support students in developing these motivating factors by creating sovereign classroom settings that accommodate students' demands for consciousness and a positive self-image. Students can suffer from poor economic family status, social, cultural, and gender-related problems causing them to be absent from school. According to Acharya (2015), in motivating students, the teacher should not deprive any students of counsel that he or she might provide to a member of own gender or ethnicity. Students should also be open to considering topics from perspectives other than their own. Students can be more motivated, especially through culturally sensitive teaching techniques, teaching materials, group projects, positive feedback, and topic selection based on their interests, continual assessment, and extracurricular activities.

Encouragement can be quite useful in the classroom assessment process. As argued by Hattie & Timperley (2007), motivational study is important because it helps students comprehend self-regulation, which is an area where they frequently fail. Rather with increasing summative assessment activities, where evidence is primarily about students' strengths and weaknesses or how they compare to their classmates, feedback provides evidence about development and performance. It is vital to pique pupils' interest in less productive subject matter. Teachers, on the other hand, must act responsibly while providing negativity to students from any viewpoint. As a result, by constructively providing feedback to students, teachers can improve their environment for learning (Ginsburg, 2009). The students then have a lot of fun and develop a strong interest in mathematics, as well as positive attitudes toward it.

CONCLUSIONS

My study revealed that as students, the respondent participants were dissatisfied with traditional teaching and knowledge transfer. However, mathematics teachers frequently need to function as facilitators and co-learners with students As a result, assessment acts as a strategic plan for teachers and students to organize learning toward a destination (Adam et al., 2014). The mathematics teachers did not emphasize the construction of knowledge and related mathematics teaching to real-life contexts. Assessment system in Nepal places a greater emphasis on academic parts of learning and pays less consideration to practical components of learning (Bhandari, 2016). The provisions of assessment also add to the challenges of implementing the mathematics curriculum properly in Nepalese mathematics classrooms. In this regard, Pant (2015) demanded that assessment should be a spontaneous component of the instructional process in mathematics classrooms and continuous assessment system having the greatest impact on learning of students. In Nepal, however, assessment is mostly dependent on paper-pencil tests, which place a strong emphasis on students' recall and replicating abilities. The participating teachers even believed that assessment procedures in mathematics teaching are inadequate unless they highlight the application of knowledge in real-life situations. Mathematical assessment broadens the resources and scope of mathematics instruction, moving away from a textbook-based culture and empowering students to manage their own learning.

Acharya (2019) stated that we must concentrate our attention about the role of assessment to improve mathematical educational methods. Mathematics assessment is a useful strategy for empowering students in the classroom and involving them in establishing a shared understanding of mathematics concepts. I was able to strengthen my beliefs on the subject after researching many existing literature, interviewing responder participants, and analyzing their beliefs and practices. Prior to my opinions, I uncovered and concluded various mathematics assessment dynamics connected to Nepalese mathematics, which I completely detailed. These helped me develop patience, maturity, and insight in preparation for my future research job. My study unraveled as stated by Klenowski (2009) that assessment is founded on a vision of the learning is an active process. The in-depth analysis of respondent participants' practices showed that their practices are assessment-based mathematics teaching. Teachers found such practices very useful for enhancing students' learning and empowering them. In addition, they regarded students as potential resources for mathematics knowledge, and they have been practising their actual participation and contribution in mathematics learning through assessment.

I found that teachers' activities emphasize meaningful understanding and knowledge construction in the mathematics classroom. On the other hand, there are factors affecting successful implementation of such activities. I agree with Acharya (2015) as he stated that assessment system in mathematics education needs to be revamped. Traditional set-mathematics views, as well as nationwide mono-curricular offering, are examples of such influences. The opportunities for Nepalese students in mathematics are constrained by centrally designed and administered assessment systems, as well as powerless teachers and students. Teachers, on the other hand, are commended for leading and developing their lessons based on their own expectations and experiences as students. Both the socio-constructivist learning paradigms and the necessary assessment for such a perspective are challenging and non-linear.

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