Exploring Factors Contributing to High and Low Performance in the National Student Assessment (NSA) 2022 across Mymensingh Division and Sylhet Division

RESEARCH REPORT

National Academy for Primary Education (NAPE)
Mymensingh

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The Research Team

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List of Abbreviations

ACER		Australian Council for Educational Research
ATIB	:	Assistant teacher Interview Bangla
ATIM	:	Assistant teacher Interview Math
ATEO	:	Assistant Thana Education officer
AUEO	:	Assistant Upazila Education Officer
COVID	:	Coronavirus disease
DPE	:	Directorate of Primary Education
FGD	:	Focus Group Discussion
FGDS	:	Focus Group Discussion for Students
FGDP	:	Focus Group Discussion for Parents
GoB	:	Government of Bangladesh
GPS	:	Government Primary School
HT	:	Head teacher
KG	:	Kindergarten
IRT	:	Interactive Response Technology
MoPME	:	Ministry of Primary and Mass Education
NAPE		National Academy for Primary Education
NAEP	:	National Assessment of Education Progress
NCTB	:	National Curriculum and Textbook Board
NCTM	:	National Council of Teachers of Mathematics
NNPS	:	Newly Nationalized Primary Schools
NSA	:	National Student Assessment
LASI	:	Learning Assessment of Secondary Education
PPS	:	Probability Proportional to Size
PTA	:	Parent teachers Association
SBM	:	School Based Management
SDG	:	Sustainable Development Goals
SMC	:	School Managing Committee
TG	:	Teachers' Guides
TV	:	Television
UEO	:	Upazila Education Officer
UNICEF	:	United Nations International Children’s Emergency Fund
URC	:	Upazila Resource Center

Chapter One

Introduction

Education is a lifelong journey involving the acquisition of knowledge, skills, habits, values, and attitudes, empowering individuals to contribute meaningfully to society (Begum & Farooqui, 2008). Assessing the progress of learners is crucial for ensuring effective education and identifying areas for improvement, acting as a vital link between teaching and learning and providing valuable feedback for educators and students (National Curriculum and Textbook Board, 2006).

The government has implemented various initiatives to assess students' learning performances and educational scenarios nationwide, including the National Student Assessment (NSA) program. Launched in 2006 by the Ministry of Primary and Mass Education (MoPME), the NSA plays a critical role in evaluating student achievement in Bangladesh's primary education system, focusing on grades 3 and 5 with a representative sample of students across the country (NSA Report, 2022). The NSA assesses literacy (Bangla) and numeracy (mathematics) skills.

A key objective of the NSA is to generate accurate and timely data to inform educational decision-making, serving multiple purposes: a) Supporting Policy and Planning: Identifying strengths and weaknesses across divisions enables policymakers to develop targeted educational strategies and resource allocation plans; b) Enhancing Teacher Education Programs: The NSA data identifies areas for adjustments in teacher training programs to better address student learning needs; c) Improving Classroom Instruction: Educators can enhance teaching methods and curriculum design based on NSA results to improve student learning outcomes. A significant development occurred in subsequent assessment cycles (2011, 2013, 2015, and 2017) with the implementation of equating, ensuring valid comparisons across different years and providing a more accurate understanding of student performance trends over time (NSA Report, 2017).

The COVID-19 pandemic disrupted the NSA program, resulting in a five-year gap between assessments. The 2022 NSA revealed concerning trends where Mymensingh and Dhaka consistently exceeded the national average in Bangla and mathematics for grades 3 and 5, while the Sylhet division lagged behind all others in these subjects (NSA Report, 2022). Notably, the Rajshahi division, which previously held the top spot, fell behind Mymensingh and Dhaka in the latest assessment. These patterns emphasize the need for further investigation into the factors influencing these contrasting situations to identify effective educational practices beneficial for all students in Bangladesh.

The ongoing underperformance of the Sylhet division in the NSA requires comprehensive investigation. This study aims to uncover the factors behind Sylhet's low achievement and the factors contributing to Mymensingh's recent success. By exploring these cases, the research provides insights into the elements influencing student performance in primary education in Bangladesh. Through a qualitative approach, the study aims to identify factors influencing

student achievement in both divisions, potentially highlighting disparities in resource allocation, educational environments, teaching methods, teacher training, and student support systems contributing to the achievement gap. The study's findings are expected to benefit stakeholders like school teachers, education officers, policymakers, and researchers significantly.

Beyond addressing immediate challenges in Sylhet, the research findings can guide the path to excellence in all divisions. By learning from best practices in Mymensingh and understanding challenges in Sylhet, policymakers and educators can collaborate to create a more equitable and effective educational system for all students in Bangladesh.

1.1 Statement of the Research

The Sustainable Development Goals Bangladesh Progress Report (2022) emphasizes the disparities within the education system. Although access to primary education seems adequate, concerns persist regarding the effectiveness of that education. The National Student Assessment (NSA), under the administration of the Ministry of Primary and Mass Education (MoPME), plays a crucial role in evaluating student achievement in fundamental skills like literacy (Bangla) and numeracy (mathematics) for grades 3 and 5. Student learning levels have not shown significant improvement compared to the 2017 results. This stagnation underscores the necessity for a deeper exploration of pedagogical approaches, curriculum design and other factors impacting educational outcomes.

Interestingly, the landscape of student performance across divisions has also changed. Historical NSA data (2015, 2017) indicates that the Rajshahi division previously held the top spot (NSA Report, 2015, 2017). However, our investigation focuses on the distinct situations of the Mymensingh and Sylhet divisions in the most recent assessment (2022). The persistent underperformance of the Sylhet division in both primary (NSA 2015) and secondary (LASI 2015) assessments is particularly concerning. This consistent bottom ranking not only lowers the national NSA average but also raises issues of educational equity, with students in Sylhet falling behind their counterparts in other divisions.

According to NSA (2022) a massive variation in the performance level of students across divisions and districts were observed. For example, in Sylhet, 75% of grade 3 students and 85% of grade 5 students were at basic or below basic levels in mathematics. Where as in Mymensingh, 39% of grade 3 students and 51% of grade 5 students were at basic or below basic levels in mathematics. And in Sylhet 62 % of grade 3 students and 69% of grade 5 students were at basic or below basic levels in Bangla. On the contrary, in Mymensingh 32 % of grade 3 students and 38 % of grade 5 students were at basic or below basic levels in Bangla.

It is essential to acknowledge that the NSA program extends beyond measuring student performance. It also aims to uncover potential links between student achievement and various contextual factors, such as teacher quality, resource allocation, and demographics. This valuable information can be utilized by education planners, policymakers, and researchers to design targeted interventions and enhance educational quality across the board.

Given the contrast between Mymensingh's high performance and Sylhet's ongoing struggles, this research delves into the factors influencing these disparities. By investigating the root causes of

these differing situations, this study aims to contribute to the development of targeted interventions for Sylhet and ultimately promote educational equity for all students in Bangladesh.

1.2 Research Gap: Understanding Performance Variations in NSA 2022

This study acknowledges the importance of context in understanding educational achievement. Focusing on Mymensingh and Sylhet divisions, the study aims to identify factors specific to these regions that might be influencing performance in the NSA 2022 exam. Existing research on NSA exams often focuses on national trends and averages, overlooking the specific factors influencing performance at the divisional level. This study contributes by exploring the unique circumstances within each division that might explain the observed differences. Moreover, research is available on factors impacting student performance in national exams, but few studies delve into the reasons behind regional disparities. In addition, the previous research studies identified broad categories of factors impacting performance (e.g., teacher quality, socioeconomic background), but this study aims to go deeper. It seeks to uncover the underlying causes behind these factors in the context of Mymensingh and Sylhet. By uncovering the factors leading to the contrasting performance in Mymensingh and Sylhet, this study can provide valuable insights for policymakers and educators. Understanding what contributes to success in Mymensingh can inform best practices that might be applicable in Sylhet and other low-performing regions. Conversely, identifying challenges in Sylhet can guide the development of targeted interventions to address those specific issues.

Considering these issues, this explorative study aimed to bridge the gap in existing research regarding factors influencing student performance in the National Students Assessment, specifically focusing on the contrasting performance of Mymensingh and Sylhet divisions in 2022.

1.3 Rationale of the study

Certainly, a multitude of contextual and background factors exert influence on student learning, as evidenced by the NSA report (2022). The report indicates that students repeating grades typically exhibit weaker performance in Bangla, possibly due to decreased motivation. Moreover, students with parents holding graduate or higher degrees consistently outperform those with non-graduate parents. The home environment plays a more significant role in grade 5 student performance compared to grade 3. Unsurprisingly, students' study habits show a strong positive correlation with their academic achievements. Additionally, teachers with higher academic and professional qualifications are linked to improved student performance. There is a noticeable positive impact on student outcomes when teachers and head teachers engage in regular discussions regarding learning strategies. Similarly, active monitoring of classroom

activities by head teachers leads to significant enhancement in student performance. Amenities such as access to clean toilets, drinking water, and effective use of technology for learning all contribute positively to the learning process.

The NSA report (2022) also reveals substantial variations in student performance across different districts, subjects, and grades. Understanding the success factors of certain divisions in Mymensingh is crucial for enabling other divisions to replicate their strategies and elevate their performance in the future. Conversely, pinpointing the root causes of consistently poor performance in the Sylhet division is equally crucial. By addressing the factors contributing to underperformance, policymakers can devise more effective strategies for improvement.

It is pertinent to highlight that Bangla and Mathematics are considered core subjects, with students' proficiency in these areas significantly impacting their performance in all other subjects (except English). Students lacking strong reading skills often struggle to engage effectively with other subjects. Bangla, also known as Bengali, is an eastern Indo-Aryan language with its script and is the national language of Bangladesh. Proficiency in the mother tongue is essential for comprehensive child development, as studies have shown that cognitive and intellectual development is more rapid in individuals fluent in their mother tongue. Furthermore, numerical development in children is closely tied to the acquisition of basic numerical skills, which serve as foundational building blocks for future mathematical achievement.

In analyzing regional performance, the Mymensingh division exhibited marked improvements compared to 2017, while Sylhet continued to display a lower level of performance (NSA, 2022).

Hence, the research problem is clearly defined as " Exploring Factors Contributing to High and Low Performance in the National Student Assessment (NSA) 2022 across Mymensingh Division and Sylhet Division." This study aims to identify the contributors to the high performance of students in the Mymensingh Division and the underlying reasons for the persistent low performance of students in the Sylhet Division in the NSA 2022. Ultimately, the research intends to provide valuable insights for policymakers to enhance performance across all divisions in the future.

1.4 Research objectives

This explorative study aims to gather reliable data regarding students' performance in NSA 2022, specifically focusing on the students’ performances in Mymensingh and Sylhet divisions. It intends to identify factors influencing student achievement and explore the underlying causes behind their performance variations. Specific objectives of this research are to-

1. Identify the factors behind the high performance of the students of the Mymensingh division in NSA 2022.

2. Identify the factors behind the low performance of the students of Sylhet division in NSA 2022.

1.5 Limitations of the study

This study titled "Exploring Factors Contributing to High and Low Performance in the NSA 2022 across Mymensingh and Sylhet Division" has several inherent limitations that need to be considered when interpreting the findings. The reliance on data analysis from the NSA report (2022) and potentially other existing sources means that while correlations between various factors and student performance were identified, causal relationships could not be definitively established. For instance, although the study may find a correlation between teacher qualifications and student achievement, it does not conclusively demonstrate that having more qualified teachers directly causes higher performance.

Moreover, the study's focus on the 2022 NSA data means that it may not capture factors that have changed over time or vary significantly across different grades within the Mymensingh and Sylhet divisions. Additionally, the research is constrained by the availability and quality of existing data, limiting the depth of understanding regarding school resources, teacher practices, and student demographics.

Furthermore, the findings of this study may not be generalizable beyond the specific populations or educational contexts of the Mymensingh and Sylhet divisions in Bangladesh. Despite these limitations, the study can offer valuable insights into the factors associated with student performance disparities in the region, guiding future research efforts and contributing to a more nuanced understanding of the educational landscape.

Chapter Two

Literature Review

2.1 Assessment and National Assessment

The term "assessment" refers to the procedures used to gather data regarding the cognitive, psychomotor, and affective domains of knowledge that students have acquired (Morris, 1996). The National Assessment of Education Progress (NAEP), according to the National Education Goals Panel (1991), is a monitoring system that involves examining individual students with the hope that it will provide targeted study and instruction objectives, thereby raising the nation's achievement levels. National assessment is one of the most significant assessment systems for a nation's educational system. According to Postlethwaite, T. N., & Kellaghan, T. (2008), national assessments are surveys of schools and students intended to yield data regarding the academic performance of pupils in specific curricular areas (such as reading and maths). To give educators, policymakers, and researchers relevant data, the evaluation also looks for a relationship between learner performance and contextual factors (NSA, 2022).

2.1.1 History and purpose of NSA in Bangladesh

The National Student Assessment (NSA) program in the People's Republic of Bangladesh was initiated in 2006 by the Ministry of Primary and Mass Education (MoPME) to assess achievement in primary education (NSA Report, 2017). A key purpose of the NSA is to provide accurate and timely data-driven information to support policy and planning, enhance teacher education programs, and improve classroom instruction to increase student learning (NSA, 2015).

NSA is a large-scale assessment that uses a nationally representative sample-based approach to obtain information about the learning levels of students in grades 3 and 5 in the schools of Bangladesh in two foundational subjects – literacy (Bangla) and numeracy (mathematics) (NSA, 2022). NSA does not report learning achievement at the level of individual students, instead, it reports learner performance at the national level (NSA, 2022).

As part of the quality agenda, the government of Bangladesh (GoB) has conducted a series of temporally comparable national assessments of student learning outcomes—the National Student Assessments (NSA 2011, 2013, 2015, 2017)—during the past decade to systematically track the state of student learning at the primary level (Saurav Dev Bhatta & Sharma, 2019). NSA 2022 was conducted after a gap of five years – the previous NSA was carried out in 2017. The NSA 2022 is also the first national level learning assessments at primary levels after the COVID19 (NSA, 2022).

The objectives of NSA 2022 were to:

- understand whether and to what extent children are learning (what children know and can do);
- analyze the changes in students' learning levels from previous round of NSA (2017)
- identify the specific groups that are falling behind in learning; and
- identify the critical issues or barriers that may be inhibiting them from learning, along with reporting variations across regions and geographical locations.

After initiating in 2006 NSA cycle was successfully conducted in 2008, 2011, 2013 2015, 2017 and 2022 after a gap of five years due to covid pandemic situation.

2.1.2 NSA conducting process

NSA 2022 is also built upon a rich set of background variables and efforts have been made to investigate the students' performances vis-à-vis the contextual variables (NSA, 2022).

The major variation was the addition of concepts or learning outcomes from earlier grades in both domains (Bangla literacy and numeracy), in the form of pre-reading and early numeracy items, to understand the possible impact of prolonged COVID-19-related school closures on learning.

NSA 2022 adopted the following process that aligns with the ACER Robust Assessment Cycle

Figure 1: The ACER Robust Assessment Cycle

A brief outline of the whole process is presented below:

Design

The primary objective of the NSA 2022 policy is to assess the impact of the pandemic on students and education. ACER and UNICEF offer assistance as necessary by utilizing and enhancing existing DPE personnel and infrastructure. Adhering to technical standards ensures the accuracy, consistency, and generalizability of data in line with global best practices. The ultimate goal is to sustain teaching and learning during the ongoing COVID-19 crisis.

Preparation

The goal of the National Assessment System (NSA 2022) is to use excellent cognitive and contextual instruments to ensure that assessment frameworks are comparable with those from previous cycles. To ensure consistency over time, the DPE team, ACER subject matter experts, and UNICEF team carefully examined each item against established technical standards. Three sets of contextual questionnaires were created for the students, including questionnaires for the students, teachers, and head teachers. For the pre-reading and early numeracy parts, where the items were created in English and subsequently translated into Bangla by native Bangla speakers, linguistic quality control was very important.
Scientific sampling techniques were used to choose a sample that guarantees the right level of statistical validity and precision when evaluating assessment results. The comprehensive measurement of assessment domains, testing duration, format, number of test forms, items required to form assessment scales, items required for historical and vertical links, and the balance between contextual and cognitive inquiries are all included in the test design.

Implementation
To maintain uniformity, field operation manuals and administrator training were developed in NSA 2022. To assist effective data collecting, data management entailed manual data entry procedures whereby data from cognitive instruments was entered into prepared sheets.

Data analysis and reporting
As part of the NSA 2022 scaling process, the IRT model was evaluated, the dimensionality of assessments was confirmed, equating documentation and error estimates was developed and evaluated, and the viability of a single concept across grades was evaluated. To make inferences about the population, data analysis included calculating statistical parameters, doing group comparisons, significance testing, and weighting.

2.1.3 Reporting and dissemination

The National Student Assessment (NSA) 2022 is a study aimed at improving student performance in Bangladesh. It aims to address the issue of isolated assessments, where performance is often overlooked or used for advancement purposes. The study involved training field-level officials and capacity building for test supervisors and invigilators. The study used a multistage, stratified, Probability Proportional to Size (PPS) sampling method, selecting 1600 schools from Bangladesh. The sample included 34,784 grade 3 and 28,272 grade 5 students, with

half coming from Government Primary Schools and 19% from Newly Nationalized Government Primary Schools. The assessment format included pen and paper tests, test booklets, and a socioeconomic background survey. The report aims to disseminate the findings in an accessible and beneficial manner to various stakeholders.

2.1.4 Preparation for NSA

The National Students Assessment (NSA) 2022 emphasized the critical role of teacher support in fostering students' academic achievement. Schools were encouraged to offer additional resources, aid, or interventions beyond regular school hours to assist students in succeeding academically. Teachers were advised to provide support by explaining concepts, offering feedback, conducting practice sessions, and engaging with struggling students. They could also organize tutoring sessions, study groups, or extracurricular activities such as projects, experiments, art projects, and debates to enhance academic support.

Maintaining open communication with parents to exchange resources, ideas, and strategies for supporting learning at home was also highlighted. Teachers were recommended to provide learning materials, workbooks, practice problems, and other resources aligned with the classroom lessons. Teachers were encouraged to personalize their teaching approaches to ensure all students, especially those who are struggling or have diverse learning requirements, could effectively engage with the curriculum. By providing tailored support and interventions, teachers play a crucial role in helping students maximize their learning potential and attain academic success.

2.1.5 Performance variation of different divisions in NSA 2022

According to NSA (2022) a massive variation in the performance level of students across divisions and districts were observed. For example, in Sylhet, 75% of grade 3 students and 85% of grade 5 students were below at basic or below basic levels in mathematics. Where as in Mymensingh, 39% of grade 3 students and 51% of grade 5 students were below at basic or below basic levels in mathematics. And in Sylhet 62 % of grade 3 students and 69% of grade 5 students were below at basic or below basic levels in Bangla. On the contrary, in Mymensingh 32 % of grade 3 students and 38 % of grade 5 students were below at basic or below basic levels in Bangla.

NSA Report (2022) revealed that Mymensingh and Dhaka division performed above the national average, in Bangla as well as mathematics for both grades. On the other hand, Sylhet lagged among other divisions in both subjects like in previous cycles. But in NSA 2015 and 2017 Rajshahi division was the highest performing region of all regions in Bangladesh, in both Bangla and Mathematics and at both grades, whereas the Sylhet division was consistently the lowest performing region in Bangladesh in both subjects and grades (NSA, 2017). It was important to identify the reasons which are accountable for the consecutive lowest performance of the Sylhet division and the reasons behind the highest performance of the Mymensingh Division in the NSA Report 2022. This research was intended to explore the factors influencing students' performance in both divisions (Mymensingh and Sylhet).

Several studies have explored factors influencing students' academic performance in different educational settings. Research highlights the significance of students' effort and prior schooling

in enhancing their academic success. (Siegfried &Fels, 1979). Ramer (1993) stated class attendance is also an important factor that affects students' performance.

2.2 Factors influencing students' performance

There is a range of factors that affect the quality of performance of students (Waters & Marzano, 2006). Educators, trainers, and researchers have long been interested in exploring variables contributing effectively to quality of performance of learners. These variables are inside and outside school that affect students' quality of academic achievement. These factors may be termed as student factors, family factors, school factors and peer factors (Crosnoe, Johnson & Elder, 2004). These factors include variables representing inputs, processes and contextual factors that are expected to influence learning outcomes (Saurav Dev Bhatta & Sharma, 2019). Some of the factors that influence students' performances are mentioned below:

2.2.1 Teacher's Teaching skill in using teaching-learning strategy

Quality teachers possess some intangible features that affect teacher effectiveness and therefore student achievement such as a belief in their abilities or an ability to connect with students. Teachers capable of creating an ordered and quiet work environment and those applying effective control strategies to increase the time allocated to teaching and learning can ensure students´ progress (Opdenakker & Van Damme, 2006). Ehrenberg & Brewer (1994) found that teachers' verbal ability as well as their academic skills, measured by scores in achievement tests, can also contribute to improving students' performance.

Van Klaveren (2011) show that time spent lecturing in front of the class has no significant effect on Dutch student outcomes. Empirical evidence suggests that teachers´ instruction based on active learning and cognitive activation is positively related to student achievement (Papanastasiou, 2008). The presence of untrained, under-qualified and trained teachers who were incompetent resulted in skipping teaching some difficult topics in the syllabus (Mosha, 2014). A study conducted by Bavani & Sanjivee (2015) in a private university in Malaysia revealed that teaching methods play a vital influence on students' academic performances.

2.2.2 Use of Teachers Guide

Teachers' guides (TGs) are an important part of a materials package, especially for less experienced teachers (Cunningsworth & Kuse, 1991). Mills et al.,(1986) disclosed that a splendid example of a successful combination of detailed lesson plans and more general guidance is to be found in the TG. The availability and effectiveness of a TG can contribute greatly to achieving a good standard of teaching, through the provision of information about the language, guidance on teaching procedures, and a rationale for the course (Cunningsworth & Kuse, 1991). Teacher guide does not aim to show teachers how to teach, it gives a highly practical account of learning, remembering and related processes (Howe, 1991). The main functions if TGs are to encourage the development of teaching skills generally, going beyond the specific skills needed to utilize the class material and to assist the teacher in understanding the structure of the course material and the contribution of each lesson or unit to the overall course (Cunningsworth & Kuse, 1991).

In Bangladesh around half of the teachers develop lesson plans using Teachers' Edition and nearly half of the teachers use Shikkhok Sohayka at the time of teaching. All assistant teachers use textbooks during teaching (Sarkar, S.K., et al.,2017). So, TGs play a vital role in students' performance. To what extent teachers use TG at the time of taking preparing for classes and conducting classes will be found out through this study.

2.2.3 Bangla Language Skills Development

Pre-reading skill development strategy

Reading is the process of identifying words in a written document. The ability to instantly identify entire words by sight without having to pronounce them out is known as word recognition (Plessis, 2022). Thus, a reader must be familiar with the language in written form before beginning to read. The language is printed in this textual form. Pre-reading exercises are the first step towards reading. According to Reading Rockets (2023), "Print awareness, also known as concepts of print, is the understanding that print carries meaning and that books contain letters and words." When youngsters are first learning to read, they absorb the concepts of text through watching and listening to others read to them (Hollowell, 2023). Teachers can read aloud from large-format books to their students in the classroom so that they can follow along at a reasonable pace and with appropriate phrasing, intonation, and emotion (Hasbrouk, 2008).

Reading comprehension development strategy

More proficient readers concentrate on drawing connections between the concepts in a text and what they already know. This allows them to concentrate solely on understanding (Armbruster, Lehr, & Osborn, 2002). According to Johnson (2017), comprehension teaching and involvement include pre-reading, during, and post reading instruction. Certain cognitive processes are necessary for reading comprehension. such as prior knowledge, vocabulary, fluency, active reading, and critical thinking. To better understand the material they are reading, students draw connections between what they already know and the prior information they have (Hart, 2023).

Vocabulary development strategy

Our vocabulary is the set of words we need to know to communicate effectively (Reading Rockets, 2023). Acquiring knowledge of vocabulary is essential for learning to read comprehension, with appropriate emphasis and intonation. Beginning readers must use the words they hear aloud to comprehend the words they read on paper. When they start school, children who hear more words spoken at home will have a greater word vocabulary and have learned more words (Reading Rockets, 2023). Sight words are frequently used and prominently shown in books. Usually, these cannot be phonetically pronounced, so they must be committed to memory (Hollowell, 2021). Readers are familiar with the vocabulary. A reader with a larger vocabulary will find the content easier to understand (Johnson, 2017). A vocabulary can be divided into four groups. These are terminology related to speaking, writing, listening, and reading. Words that a youngster can comprehend or understand when he reads them make up his reading vocabulary (Rognlie, 2017).

Bangla assessment techniques

Research (Armbruster, Lehr, & Osborn, 2002) shows that teachers' probing questions, generating questions, recognizing story structure, summarizing, making use of prior knowledge, and using mental imagery can enhance children's reading comprehension. Students who can answer questions effectively, generate questions, and recognize story structure are more likely to enjoy, comprehend, and remember stories. Summarizing is a crucial task, and using prior knowledge can help students prepare for the text. Mental imagery can help students visualize scenes, characters, or events. According to (Save the Children, 2016) informal formative assessment, which includes phonemic awareness, letter knowledge, vocabulary, fluency, and comprehension, can be used to evaluate students' reading fluency. Teachers can use tactics such as speaking, reading, or answering questions to identify difficulties and provide feedback.

2.2.4 Mathematical knowledge for teaching

Teaching numbers and counting

It establishes connections between different mathematical ideas such as numbers, decimals, and measurement leading to the development of mathematical skills for the formation of more advanced mathematical concepts (Kaplan, 2008). The National Council of Teachers of Mathematics recommends that educators should enable every student to understand numbers and compute fluently (NCTM, 2000). Counting is one of the most critical skills used to understand numbers as well as to facilitate arithmetic learning (Authors, 2020; Soylu et al., 2018)). As children's conceptual understanding of counting develops, their counting competencies start with less efficient strategies (e.g., counting-all), and then develop to more efficient strategies (e.g., counting-on; Geary et al., 2004). The use of these counting procedures further results in the development of memory representations of basic mathematics facts (Geary et al., 2004; Siegler & Shrager, 1984). As a result, children shift from the use of finger or verbal counting to memory-based problem-solving processes such as direct retrieval and decomposition (Geary, 2011; Geary et al., 2004). Children with mathematics difficulties, however, often show challenges in developing more efficient counting strategies resulting in performance challenges with mathematics situations such as solving arithmetic problems (Dennis et al., 2016; Geary, 2011; Geary, 2004). To remediate difficulties in arithmetic problem solving, mathematics instruction for students with mathematics difficulties too often focuses on using standard algorithms with limited opportunity for developing their reasoning and understanding of mathematics (Gersten & Chard, 1999). However, researchers (e.g., Burns, 1994; Carpenter et al., 1998; Carraher & Schliemann, 1985; Kamii & Dominick, 1998; Sahin et al., 2020) argue that young children need to develop the logic of mathematics and invent their procedures for computation, rather than just follow steps provided by adults.

Teaching measurement

The teaching of length measurement usually begins in early childhood education with a direct comparison of lengths and measurements with discrete units. It is later, in the first years of primary school, that measuring with rulers is taught. Despite this, there are studies with children younger than the beginning of formal instruction in ruler measurement that obtain evidence of the correct use of this measuring instrument by some of them (Bragg and Outhred, 2000a, 2000b; Hiebert, 1981; McDonough and Sullivan, 2011). Therefore, it can be interpreted that some children have some intuitive notion of how to use this instrument. However, different authors (Congdon et al., 2018; Gomezescobar ´ et al., 2020; Ho & Lowrie, 2013; Irwin et al., 2004; Kamii & Clark, 1997; Levine et al., 2009; Sisman & Aksu, 2016; Solomon et al., 2015); that delved into students' understanding of ruler length measurement found that students have difficulties in interpreting the component elements of the ruler: numbers, marks (or ticks) and units. Regarding the numbers on the ruler, Gomezescobar ´ (2020) concludes that when children measure lengths with a ruler, they tend to read the number that coincides with the end of the object, regardless of the starting point of the measurement. Another aspect to consider to understand children's interpretation of the measurement is the strategy they use. In this regard, to the best of our knowledge, the literature reviewed does not promote children's feedback through verbalisation of the strategy used. Several studies (Bragg & Outhred, 2004; Cogndon et al., 2018; Cullen & Barrett, 2010; Irwin et al., 2004; Kamii & Clark, 1997; Levine et al., 2009; Solomon et al., 2015) infer the measurement strategy employed by the participant through the numerical outcome of the measurements. For example, if the result is one unit more than the length of the object, the authors interpret that the learner has counted marks. As in other studies (Boulton-Lewis et al., 1996; Nunes et al., 1993), the present research explicitly asks about the measurement strategy used to encourage the child's reflection on his or her performance.

Teaching geometric figure

Mathematics is a branch of science which investigates the characteristics of abstract concepts like numbers, quantities, geometrical shapes, expressions, operations etc. and relations among these with reasoning methods (Tuncer, 1995).

Geometry is a branch of science which helps an individual gain vision, ease thinking and reach a solution by realizing the shapes before the eyes (Hızarcı, 2004). Geometry, whose content area is shapes and objects, has an essential place in human life. Geometry allows students to stimulate their minds, make mind exercises and problem-solving, compare, generalise and summarize skills development. In general, geometry is a significant tool for a student to give meaning to his/her surroundings (NCTM, 2000; Napitupulu, 2001).

Mathematics, particularly geometry, is a subject that students approach with bias. To eliminate this bias and to provide a positive attitude for geometry can only be possible with the education to be given to them (Pusey, 2003: 66-74). Geometric thinking structure is closely related to the geometry education given in the primary school era.

The teacher is an important factor during this process (Terzi, 2010). Geometrical field knowledge and students' knowing on which level they are geometrically are two fundamental points necessary for efficient geometry teaching (Toluk, taken from 1994: Toluk, Olkun ve Durmuş, 2002). Even though the presence of concrete structure creates a cognitive positive

effect on cognizing geometrical concepts, this situation does not mean that it can be learned more easily. Some studies emphasized that the geometrical thinking levels of primary and secondary education students were below the expected level (Halat, 2006; Alex and Mammen, 2012).

Math assessment techniques

Assessment has been used for multiple purposes, such as providing student grades, national accountability, system monitoring, resource allocation within a district, 2 Assessment in Mathematics Education student placement or monitoring, determining interventions, improving teaching and learning, or providing individual feedback to students and their parents/guardians (Newton 2007). The purpose is important. Claims that are made should be different, depending on the goals and design of the assessment activity. Assessment has been identified as one of the key topics and issues for future research, highlighted within this rich debate. Concerning this issue, Bakker et.al. (2021), in particular, stressed the need to reflect on facing the challenge of how to "successfully assess what we value rather than merely assessing what is relatively easy to assess" (p. 18)

As noted by Baird et al., "assessments define what counts as valuable learning and assign credit accordingly" (2014, p. 21), and thus, assessments play a major role in prescribing what occurs in the classroom in countries with accountability policies connected to high-stakes assessments. That is, in many countries, the assessed curriculum typically has a major influence on the enacted curriculum in the classroom. Furthermore, assessments should provide opportunities for all students to demonstrate their mathematical learning and be responsive to the diversity of learners (Joint Committee on Standards for Educational Evaluation 2003; Klieme et al. 2004; Klinger et al. 2015; NCTM 1995)

Assessment Standards for School Mathematics suggested that assessments should provide evidence to enable educators "(1) to examine the effects of the tasks, discourse, and learning environment on students' mathematical knowledge, skills, and dispositions; (2) to make instruction more responsive to students' needs; and (3) to ensure that every student is gaining mathematical power" (NCTM, p. 45).

2.2.5 Use of domain-based item

Bloom's Taxonomy is important when preparing examination questions since it measures the correct skills based on the hierarchy and order of the action verbs used. The system can be used for the allocation of marks and standardizing assessment questions (Banda et al., 2020).

A greater proportion of educators who do not know whether they use the Bloom taxonomy is setting the questions (Banda et al., 2020). Cognition involves both comprehension and critical thinking skills, and the cognitive domain can be further divided into knowledge, comprehension, Application, Analysis, Synthesis and Evaluation. This codification became the central axis around which language testing developed as well (Kalpana & Sankar, 2017).

In 2008, Bloom's taxonomy was applied at the University of Washington to develop the Blooming Biology Tool – an assessment tool to assist biology educators in aligning the assessments they use with the teaching activities and help develop classroom materials and

exams based on a unified evaluation kit (Crowe et al., 2008). Later taxonomy was applied to different subjects and different levels of Education (Crowe et al., 2008).

Crowe et al. (2008) described in their research that by "Blooming" in-class questions, students are provided with daily formative assessment of their learning while Bloom's analysis of test performance provides the student with a more focused assessment of the type of question with which they struggle.

2.2.6 Providing Feedback

Feedback has been identified as a key factor in enhancing academic achievement and facilitating learning (Hattie & Timperley, 2007). Feedback refers to information communicated to learners about their performance or understanding of the subject matter, intending to improve their current and future work.

Smith & Higgins (2006) suggested that teachers created such an environment through feedback moves which encouraged peer-to-peer feedback, cued extended responses, demonstrated authentic engagement in pupil responses, and used pupils' ideas to direct, and in some cases change, the course of a lesson.

Research indicates that successful feedback should be timely, clear, goal-oriented, accurate, nonjudgmental, specific, and build on prior accomplishments (O'Neill et al., 2019). Furthermore, providing feedback in various forms (verbal, written, etc.) allows for more information to be conveyed and for learners to better understand what is expected of them. The availability of feedback also encourages learners to take more ownership of their learning and to strive for higher goals.

Studies have suggested that effective feedback can increase students' academic self-efficacy, promote self-regulation among learners, and support an intrinsic motivation to learn (Hammer et al., 2012). Moreover, it has been found that students who receive feedback tend to have improved academic performance, a better understanding of the material, and increased engagement with the course content (Habibullah & Ashraf, 2013). Overall, feedback is a powerful tool to promote.

A significant increase in performance was observed for teachers being friendly and providing feedback and for teachers and students doing classroom activities together (NSA, 2022).

2.2.7 Use of Teaching Aids

The use of teaching aids can facilitate the learning process by making it interesting and less time-consuming. The use of teaching aids enables learners to use their hearing or seeing abilities and actively perform something while learning (Ordu, 2021).

Teaching aids are also called audio-visual aids. Contemporary teaching aids that are in use provide stimulation to ears and eyes together compared to the traditionally used teaching aids that stimulate only one sense organ. The emerging teaching aids involve other sense organs (Đurđanović, 2015).

Research studies suggest that the use of teaching aids can improve the cognitive abilities of students and increase their study success. Teaching aids such as images, video recordings, slides, flipcharts, etc., be beneficial for helping students understand difficult concepts more concretely (April and Bouchamma, 2017).

To explain the appropriate use of teaching aids for certain subject matter Facer (2011) explained that information is now in multiple forms like texts, graphics, video and audio. As a result, teachers have become saddled with the challenge of how to teach learners to make sense of the vast amount of information they find.

2.2.8 Supporting Teaching and Learning in COVID-19

COVID-19 is the greatest challenge that these expanded national education systems have ever faced. Many governments have ordered institutions to cease face-to-face instruction for most of their students, requiring them to switch, almost overnight, to online teaching and virtual education (Daniel, 2020).

E-learning tools have played a crucial role during this pandemic, helping schools and universities facilitate student learning during the closure of universities and schools (Subedi et al., 2020). While adapting to the new changes, staff and student readiness needs to be gauged and supported accordingly. The learners with a fixed mindset find it difficult to adapt and adjust, whereas the learners with a growth mindset quickly adapt to a new learning environment. (Pokhrel & Chhetri, 2021). Online learning also allows physically challenged students more freedom to participate in learning in the virtual environment, requiring limited movement (Sasilaia & Kvavadz, 2020).

Many countries have substantial issues with a reliable Internet connection and access to digital devices. While, in many developing countries, economically backward children are unable to afford online learning devices (Pokhrel & Chhetri, 2021).

2.2.9 Regular attendance

Attendance is one of the most important factors influencing student performance, which has been widely studied in academic literature. One study by Gottfried (2010) found that student attendance has a significant positive effect on academic performance, particularly in the areas of reading and math. The study found that students who attended school regularly had higher test scores and better grades. The author suggested that the benefits of regular attendance may be due to its ability to provide students with consistent exposure to academic material and classroom instruction. Another study by Rumberger and Thomas (2000) found that student attendance is a strong predictor of high school graduation rates. Eren and Mahmut (2022) found that students who attended classes regularly earned higher grades compared to those who rarely attended. Studies have indicated that missing classes can hinder learning and lead to poorer academic performance (Epstein & Sheldon, 2002; Sekiwu et al. 2020; Eren and Mahmut, 2022).

Student absenteeism can lead to poorer grades and is associated with decreased engagement with the learning material. To encourage regular attendance, research has suggested various strategies, such as incentives, creative approaches and parental involvement (Gottfried, 2010; Sekiwu et al.

2020). Considering the importance of regular attendance, further research into this area is needed.

2.2.10 Private tutor

A literature review on the topic of private tutoring or private coaching as an influencing factor for student academic performance would involve exploring various studies and research papers that have investigated the relationship between private tutoring and student outcomes. One study conducted by Guryan et al. (2021) found that private tutoring can significantly improve student performance, particularly among low-performing students. The study found that private tutoring was associated with higher test scores, improved grades, and increased enrollment in advanced courses. Another study by Fallon et al. (2019) found that private tutoring can have a significant impact on student learning, particularly in subjects such as math and science. The study identified several factors that contribute to the effectiveness of private tutoring, such as individualized instruction, feedback, and the use of technology. In addition to the benefits of private tutoring, some studies have also raised concerns about its potential negative effects on student outcomes. For example, a study by Kim and Lee (2010) found that excessive use of private tutoring can lead to higher levels of stress and anxiety among students, which can ultimately hurt their academic performance. The authors also mentioned that it is important to note that the effectiveness of coaching or private tutoring depends on the qualifications, experience, and teaching approach of the tutor, as well as the willingness and commitment of the student.

One study by Credé and Kuncel (2008) found that private coaching can be an effective method for improving student academic performance. The study found that private coaching was associated with higher grades, better study habits, and increased motivation among students. The authors suggested that the benefits of private coaching may be due to its personalized and individualized nature, as well as the focus on developing specific skills and strategies. Another study by Hattie et al. (1996) found that private coaching can have a significant positive effect on student outcomes, particularly in the areas of reading and math. The study found that private coaching was associated with higher test scores and improved academic achievement. The authors suggested that the benefits of private coaching may be due to its ability to provide targeted feedback, individual attention, customized instructions, clarification of concepts, filling learning gaps, mentorship and support to students, as well as its focus on building confidence and self-efficacy.

2.2.11 Learning support at home

Students who studied regularly at home after school hours and read additional materials that were not in their curriculum performed better (NSA, 2022)

2.2.12 SMC Support

School-Based Management (SBM) is a concept that offers autonomy to schools to determine school policies to improve the efficiency, effectiveness, equity and quality of education to accommodate the wishes of the community and the government.(Osei & Kwame, 2012).
SBM has the meaning of participatory management that involves community participation so that all policies and decisions taken are joint policies and decisions, to achieve mutual success (Osei & Kwame, 2012). This participation needs to be managed and coordinated properly to make it more meaningful for schools, especially in improving the quality and effectiveness of education through a forum, namely the board of education at the district/city level and school committees in each education unit (Damanik, 2019). So, an active SMC plays an important role in ensuring quality education.

2.2.13 Parental Support

A meta-analysis of 30 studies found that parent involvement was positively related to students' academic achievement. Hattie (2009) found that when parents are involved in a student's educational journey, higher grades and better attendance are achieved. Additionally, Martin-Chang et al (2011) have established that parental involvement has a direct effect on the academic achievement of students, with guardians providing resources, guidance, support systems, and encouragement for improved student academic performance.

McNeal (2015) suggested some dimensions of parental support such as the home learning environment, educational aspiration, parental involvement in education, future planning, academic guidance, communication, setting expectations, etc.

Parental support in children's education is essential for fostering and promoting academic achievement.

Chapter Three

Research Methodology

3.1 Research Design

This study utilized a qualitative narrative research approach to investigate the factors contributing to students' performance in the Mymensingh and Sylhet divisions. The narrative approach allows to explore how various factors like preparation strategies, learning environments, and personal circumstances interact to influence each student's performance (Flick, 2014). A qualitative narrative approach prioritizes understanding the lived experiences of students (Clandinin & Connelly, 2000). This method allows students to share their stories and perspectives on the factors that influenced their performance, providing richer insights than just numbers. In a narrative approach, collection of data through interviews or open-ended questionnaires are important because that encourages students to share their stories. Besides that, the data analysis process will involve identifying themes and patterns across student narratives to understand the broader factors influencing performance. In this research Interviews and FGD were used for collecting data and a thematic data analysis process was applied for analyzing data. The research design aimed to gather in-depth insights into the various aspects influencing student academic achievement in the selected schools.

3.2 Population and Sample Selection

The study population included grade 5 students who participated in the NSA 2022 assessment, assistant teachers, headteachers, AUEO/ATEO officials, and parents/caregivers of the students. A total of 20 schools were purposively selected from different Upazilas in the two divisions, considering schools such as GPS, NNPS, Ebtedaee Madrasas, and Kindergarten Schools. The selection of schools ensured equal representation from each division and included diverse demographics and characteristics. The sample matrix is presented below:

Division	District	Upazila	GPS	NNPS	Ebtedaee Madrasas	KG	Total
Mymensingh	Mymensingh	Nandail	1		-	1	2
		Gouripur	1	1	-	-	2
		Muktagachha	1	-	-	-	1
		Fulbaria	1	-	-	-	1
	Jamalpur	Islampur	1	-	1	-	2
	Sherpur	Nakla	1	-	-	-	1
	Netrokona	Madan	1	-	-	-	1
		Total	**7**	1	1	1	10
Sylhet	Hobigonj	Lakhai	1	-	-	-	1
		Banichang	1	-	1	-	2
	Moulvibazar	Kamalgonj	1	-	-	-	1
	Sylhet	Jakigonj	1	1	-	-	2
		Bishwanath	-	1	-	-	1
	Sunamgonj	Chatak	1	1	-	-	2
		Jamalgonj	-			1	1
		Total	**5**	**3**	**1**	**1**	**10**

3.3 Data Collection

Data was collected through interviews and focus group discussions. Headteachers, assistant teachers, and AUEO/ATEO officials participated in semi-structured interviews by the data collector to gather their perspectives on factors impacting student performance. Focus group discussions were conducted with students and parents/caregivers to explore their experiences and challenges in the academic environment.

Sl	Population	Sample technique	Sample	Tools
1	Students of Grade 3 (Now in class 5) who participated in NSA 2022	Purposive	1 FGD including 6 students (3 boys and 3 girls) per school	FGD paper
2	Assistant Teacher	Purposive	2 Assistant Teachers from each school (Bangla and Mathematics teachers)	Interview Schedule
3	Head Teacher	Purposive	1 Head Teachers from each school	Interview Schedule
4	AUEO/ ATEO	Purposive	1 AUEO/ ATEO from each cluster	Interview Schedule
5	Parents/ Care Givers	Purposive	1 FGD inviting 6 parents (3 father and 3 mother) per school	FGD paper

3.4 Data Analysis and Data Presentation

Qualitative data analysis techniques, such as thematic analysis, were employed to identify patterns, themes and trends within the data. Transcribed interviews and focus group discussions were coded and categorized to extract key findings regarding the factors influencing student performance. The triangulation of data sources and methods enhanced the credibility and validity of the study findings.

To analyze the qualitative data collected from the students, parents/caregivers, education officials and content analysis, data-driven thematic analyses were incorporated (Braun and Clarke, 2006). It is a systematic process of reading the data several times to come up with some words, phrases, sentences and/or paragraphs that the researcher can code to develop some themes or concepts that summarize the similar contents of the data (Braun and Clarke, 2006). Data was analyzed in a systematic way that was fed into qualitative findings to explain the probable reason behind qualitative findings which led to convincing conclusions of this study (see Figure 1).

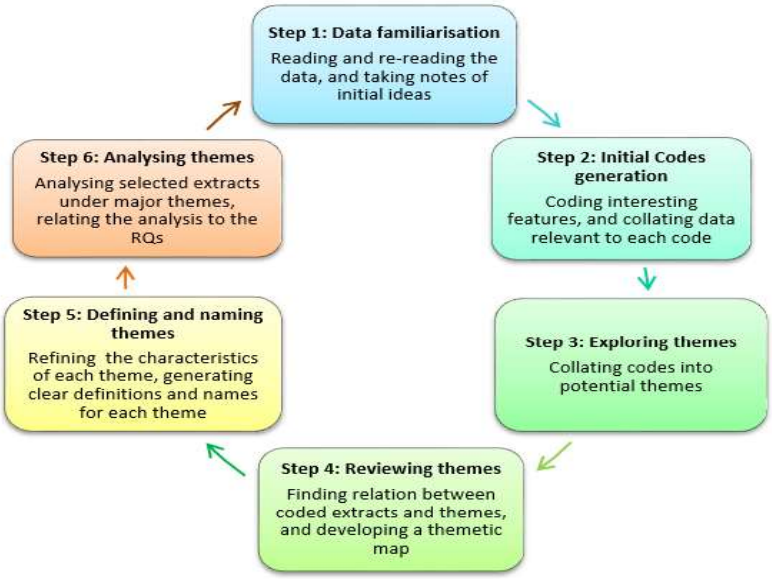

Figure 2: Data-driven thematic analysis cycle (Adapted from Braun and Clarke, 2006, p. 87)

3.5 Ethical Considerations

Ethical considerations were prioritized throughout the research process. Informed consent was obtained from all participants, and their confidentiality was ensured. Participants were informed about the study's objectives, procedures, and their rights to withdraw at any time. Data confidentiality and anonymity were maintained during data collection, storage, and analysis.

Chapter Four

Data Presentation

4.1 NSA conducting process

4.1.1 Instructions and support for NSA

Instructions or support is essential for conducting NSA throughout the country. The research team tried to explore what types of instructions or support were provided to officers and teachers (HT and AT).

The Deputy Director (DD) of Mymensingh organized an Orientation for Upazila Officials (AUEOI[4]). DPE also provided sample questions on NSA (AUEOI[4]), and we were instructed to notify teachers and the School Managing Committee to prepare students for NSA (AUEOI[6]), about NSA (AUEOI[1], AUEOI[6]), and instructed to receive answer scripts and sent to DPE (AUEOI[1]). An AUEO (AUEO[3]) said,*"School supplied guidebooks to the students."*

The Headteachers of Mymensingh have reported that UEO offices have organized an all-day orientation for the selected Headteachers and Assistant Teachers (HTI[3], HTI[8]). The orientation covered topics related to NSA, such as who will take the test, how to take it, the questions that will be on it, the total marks of NSA, and so on (HTI[3], HTI[5], HTI[8], HTI[10]). According to HTI[1], HTI[5], HTI[7], HTI[6], and HTI[10], *"They were instructed that NSA would be on Bangla and Mathematics, and it would be for the students of classes three and five"*. Additionally, they stated that we were given NSA sample questions and arranged practised by them (HTI[1], HTI[2], HTI[9]), that we were urged to encourage students (HTI[6], HTI[8]), that we set up model exams for the students (HTI[2], HTI[7]), that we made sure students' presence on the exam day (HTI[6], HTI[7]).

> *"It was instructed to take action for students' reading and mathematical operations such as addition, subtraction, multiplication, division, measurement, geometry, time, etc and took extra classes for the NSA selected students"* (HTI[6]).

Teachers who have had experience with NSA share their experiences with us in the orientation program (HTI[3], HTI[1], HTI[8])." Headteachers also reported that they prepared students by taking different initiatives such as class tests (HTI[3], HTI[5], HTI[7]), weekly tests (HTI[3], HTI[5]), subject-based tests (HTI[3]), domain-based tests (HTI[5], HTI[2], HTI[6]), monthly tests (HTI[5], HTI[10]), model tests followed by guidebooks (HTI[1], HTI[8], HTI[2], HTI[7]), arranges coaching classes (HTI[9], HTI[8], HTI[7]), and also arranges extra classes (HTI[3]). A headteacher (HTI[6]) said, *"UEO office supplied guidebooks to us*.

The Assistant Teacher (Bangla) claims that UEO office organized NSA training (ATIB[3]), gave NSA sample questions (ATIB[2]), a syllabus (ATIB[3]), instructed students to prepare for exams and exam rooms (ATIB[6]), informed and made aware of parents/guardians (ATIB[7]), told them to concentrate on their textbooks (ATIB[1]), and said an Upazila team would visit the activities

(ATIB[1]). ATIB[5] stated, *"Authority instructed us to arrange weekly, monthly, and special model tests following NSA sample questions."* Another ATIB[7] noted, *"Instructions were to develop competency-based questions."* ATIB[1] said, *"We were informed that based on the results of NSA, the foreign donation would come or close to our country."*

The Assistant Teacher (Mathematics) reported that the UEO office arranged a one-day NSA training (ATIM[5]), provided the NSA syllabus (ATIM[2]) and sample questions (ATIM[2]), and instructed to take model tests (ATIM[6], ATIM[7], ATIM[5]), asked to ensure students learning and practicing for NSA related items (ATIM[6]). An assistant teacher (ATIM[3]) opined, *"Teachers who had experience on NSA shared their views during the training."* Another teacher (ATIM[9]) said, *"During training, it made clear what NSA is, who will participate, how and when the NSA will take place, who will be invigilators, etc."*

Students shared that the headteacher offered to attend the Model Test (FGDS[1–10]) and helped with the purchase of guidebooks from the Islampur Library (FGDS[10]) and Seba Library (FGDS[7]). According to FGDS[9], *"Within two months, we attended twelve model tests."*

AUEOs of Sylhet informed that DPE conducted a two-day orientation training program (AUEOI[11]) in Dhaka (AUEOI[12]). The training covered NSA-related topics, including eligibility criteria and the selection process (AUEOI[14]). We were also informed that sealed question packets for the NSA will be kept at both Upazila Offices and exam centres (AUEOI[17]).

The head teachers of Sylhet division said that the UEO office told them about NSA (HTI[20]), that 25 students from each class will take the NSA (HTI[17]) exam, and that the model test for NSA (HTI[12], HTI[11], HTI[16], and HTI[13]) would be provided. "I told them the test was scheduled to take place just one week before the NSA test (HTI[18], HTI[14])." "I was informed during the Monthly meeting (HTI[15])," stated another HT. They added that they had received instructions regarding the NSA's question format and sample questions (HTI[15]). "The UEO office arranged two special Model Tests for the NSA," stated a headteacher (HTI[15]). Additionally, head teachers reported that students purchased guidebooks from the market and took preparatory exams (HTI[11], HTI[18]); we also set up two to four model tests (HTI[18], HTI[19], HTI[11]).

As stated by the Assistant Teacher (Bangla) of Sylhet division, outside teachers administer the NSA (ATIB[12]), obtain the questions (ATIB[20]), provide orientation training from the Upazila office (ATIB[16]), and get pupils ready for the test (ATIB[15]). The Assistant Teacher (Mathematics) claims that the Headteacher advised pupils to get ready (ATIM[16]), provided information about NSA (ATIM[11]), and obtained a list of questions from the Upazila office (ATIM[16]). " *I have heard there will be an NSA exam, but I'm not sure how it will be conducted*," ATIM12 stated. But according to ATIM[15], another teacher, "*I have an idea of what the NSA would be like*."

Students from Sylhet have reported that they were asked to purchase Fulkoli guidebooks (FDGS[13]) and instructed to take part in Model Tests (FGDS[11-12], FGDS[14-16], FGDS[18], FGDS[20]). *"Madam asked to purchase guidebooks for 100 taka* (FGDS[18], FGDS[15])*."*

4.1.2 Administering NSA Tools

It is essential to know the NSA process for the selected schools. Here are the opinions of the stakeholders explored by the research team.

AUEOs of Mymensingh reported that they were aware of the process of NSA. These are: we got the official letter about NSA(AUEOI[1]); we sent the students list to DPE (AUEOI[1]); before exam we got the selected students and schools list (AUEOI[1]); we discussed with HT and AT (AUEOI[5]); we received sealed questions (AUEOI[6]); after exam completion, we received answer scripts and sent to DPE (AUEOI[7]).

Headteachers reported that 25 students were selected randomly (HTI[2], HT9, HTI[8]), we prepared the exam centers and rooms and ensured the students' presence during the exam day (HTI[3], HTI[9], HTI[8]). The same HT (HTI[3], HTI[9], HTI[8]) said,

> *"An officer along with two other teachers came to conduct the NSA. They uncovered the question packets, distributed them among the students, invigilated the exam rooms, and collected answer scripts to submit to the Upazila office."*

According to the AT, two invigilators from other Upazila selected the enlisted 25 students and conducted the NSA (ATIB[2], ATIB3, ATIM[3]). An AT (ATIB[3]) mentioned, *"We didn't go to the exam hall during the NSA exam."*

Students of Mymensingh said that we didn't know the teachers who conducted the NSA exam (FGDS[2], FGDS[4], FGDS[8]); we got the questions from Bangla and Mathematics (FGDS[2]); most of the questions were familiar from guidebooks (FGDS[2]); questions were easy for us (FGDS[5]).

AUEOs of Sylhet commented that NSA was on Bangla and Mathematics (AUEOI[17]); it was on classes three and five (AUEOI[17]). According to the AUEOs, we obtained training regarding NSA (AUEOI[12]); we educated HT about the NSA specifics (AUEOI[12]); we notified selected schools to develop competency-based questions (AUEOI[12]). Twenty students from class five and twenty from class three participated in the NSA, which was administered by UEO and two additional teachers, according to the headteachers of Sylhet (HTI[12], HTI[16], HT[17], HTI[15]). "*No other students and parents were allowed to enter the school during the exam time*," stated an HT (HTI[17]).

According to assistant teachers, two HTs from a different Upazila visited and conducted the NSA with the chosen third- and fifth-grade pupils. "We weren't allowed to enter into the exam room," stated an ATIB (ATIB[12]). "The designated invigilators for NSA came and ran the exam," stated another AT (ATIM[19]). It covered mathematics and Bengali. Students said that we didn't know the teachers (FGDS11, FGDS[15], FGDS[20]); that invigilators didn't assist us in answering (FGDS[12]); that they wouldn't let us speak with other students (FGDS[12]); and that some of the questions were taken directly out of textbooks and others weren't (FGDS[12]).

4.2 Students Performance in NSA

Headteachers of Mymensingh division reported that we prepared students according to the guidelines of the authority (HTI[3], HTI[6], HTI[10]); comparatively better students sit for exams in my school (HTI[4], HTI[7]); NSA selected students regular attendance (HT[2], HTI[10], HTI[4]); we

arranged model tests following NSA question structures (HTI[7], HTI[4]); guardians ensured NSA selected students' homework at home (HTI[2]); extra classes for NSA selected students before and after the school regular time (HTI[2], HTI[4], HTI[10]); and we were very much conscious about NSA exam (HTI[7]). Headteachers (HTI[3], HTI[7]) mentioned, *"Those NSA-related guidebooks were available in the markets, students bought them, and we taught them. Students got common questions during the exam."*

According to the assistant teacher Bangla, we were serious about the NSA exam (ATIB[2]), regularly assessed following the NSA question structure and provided feedback to the students (ATBI[2], ATBI[4]); we followed NSA-related guidebooks, and it helped us a lot (ATBI[4]); communicate with the guardians' regular basis (ATIB[2]). Assistant teachers Mathematics reported that we ensured NSA selected students' regular attendance (ATMI[2], ATMI[9]); conducted extra classes before and after school time (ATMI[2]); took extra special classes for students of classes three and five (ATMI[4]); we followed NSA related guidebooks (ATMI[3]); we arranged regular basis model tests (ATMI[2]).

AUEOs commented that teachers were active regarding NSA exam (AUEO[1], AUEO[3]); we informed teachers about NSA questions pattern and experienced teachers shared their opinions relating to NSA (AUEO[4]); guardians help at home (AUEO[4]); we worked with NSA-selected schools and provided sample questions (AUEO[7]); COVID-19 hampered for doing better result in NSA for some students (AUEO[8]).

Parents shared that our students came to school regularly, teachers arranged model tests, and we looked after the students at home (FGDP[7]).

The findings of the NSA show that Sylhet did not fare well. Numerous explanations for the outcomes were provided by parents, assistant upazila education officers, head teachers, and assistant teachers. The primary causes of low performance in the NSA, according to headteachers, are the following: the learning gap caused by the Corona period (HTI[15], HTI[14], HTI[12]); the disruption caused by the terrible floods of 2022 (HTI[16], HTI[20]); the difficulty of communicating with students who are not residents (they are coming to work, moving here and there) (HTI[15]); the difficulty of hiring teachers due to the lack of government grants in my madrasah (HTI[18]); parents who are illiterate, impoverished, and unaware; lack of parental support; irregular student attendance (HTI[11], HTI[12], HTI[16]); the backward educational environment and low rate of education (HTI[16]). A head teacher stated (HTI[13]),

> *"There is a big problem in Sylhet: the rich are rich and the poor are extremely poor. The rich often help the poor and it makes them lazy. These people are unaware of their children's education."*

Assistant teachers (Bangla) commented that various reasons are responsible for this poor result, such as illiterate, poor and unconscious parents of these areas (ATIB[12]); irregular school attendance (ATIB[12], ATIB[20]); after home visits, 2 or 3 days presence in school but a few days later became irregular (ATIB[12]); students didn't respond all questions in NSA (ATIB[19]); learning gap during Corona (ATIB[20]); minority language problems, malnutrition of the students (ATIB[20]); involvement of agricultural activities as well as day and child labor activities (ATIB[20]); unfed (ATIB[20]). A teacher (ATIB[12]) said, *"Students didn't get good support from home. Moreover, people in this area didn't think about good jobs by studying well; they think about going abroad."*

Assistant teachers (Mathematics) shared a lot of reasons such as irregular attendance, unknown teachers in the NSA exam, exam fear (ATIM[11]); students not opening the book at home at all (ATIB[12]); parents being callous about the children, their education, their arrival at school (ATIM[12], ATIM[20])); bad economic conditions of the parents (ATIM[12]); class three students didn't do more classes due to Corona (without attending the class one and class two) (ATIM[13]); (many people from different divisions come here for work, not settle in the area) unsettled students (ATIM[20]).

AUEOs reported that there had been some evidential reasons for poor performance in NSA. These are the devastating flood of 2022 and learning loss due to Corona (AUEO[16], AUEO[17]); no campaign in electronic or print media (AUEO[20]); ambiguous concept about NSA (AUEO[19]); absenteeism in Haor area (AUEO[14]); lack of monitoring (AUEO[11]); inadequate officers for monitoring (AUEO[11], AUEO[20]); teachers staying at town (AUEO[11]); the huge gap between rich and poor, imbalance in economic status (AUEO[12], AUEO[20]); prone to go abroad especially Canada and London (AUEO[12], AUEO[20]). An AUEO (AUEO[20]) said, "Affluent parents think that government schools are for poor people. So, they didn't send their children. It impacts the performance of the NSA."

4.3 Socio-economic Situation and Parental Support

4.3.1 Student Attendance

Headteachers of Mymensingh division reported that nearly 75% of students were present in the schools. They mentioned that there were some reasons for students' absence. These were guardians/parents' apathy about the students (HT[I2]), poor families' indifference about their schooling (HTI[8]), assisting their parents during cutting crops or seedlings, and illness (HTI[4]).

According to AUEOs, attendance is lower during rainy and paddy-cutting seasons (AUEO[8]) and poverty-stricken grassland or Char area (AUEO[3]). An AUEO[7] said,

> *"Nearly 70% of students in Madan Upazila are regular. Others go out for work. There is also quite a lot of migration (e.g., the whole family moves to Sylhet or Chittagong for work) during crops."*

A student (FGDS7) mentioned, *"We don't go to the school in Madan during the cattle market on Monday and Thursday.* "A parent (FGDP[10]) said, *"My daughter missed school when we relatives came to my home, or we visited our relative houses during natural calamities as my area is a flood-prone area."*

On the other hand, Headteachers of Sylhet division reported that students' absenteeism is due to illness (HTI[16]), travelling to relative houses (HTI[16], HTI[13]), during seasonal crops (HTI[13], HTI[20]), parents' apathy (HTI[13], HTI[20]), poverty (HTI[20]). A headteacher (HTI[13]) said, *"Many students don't come to school on rainy days because the roads here are muddy."* Another headteacher (HTI[20]) mentioned, *"Whenever there is a social event or a meal organized somewhere, the students go together to eat and do not come to school that day."*

According to AUEO[15], *"Absentee students help parents with homework."* A student (FGDS[20]) said, *"I don't come regularly. I take care of my younger brothers and sisters. I wash utensils at my home."* Another Student (FGDS[14]) stated, *"I don't come to school on days when it becomes*

too late to eat. Sometimes, I do housework with my mother." Similarly, a student (FGDS[18]) mentioned,

> *"Madrasha is often closed due to family disputes, headteachers do not come regularly. Even if he comes again, he teaches until 10-12. Sometimes, I help my father to fish or come out of Madrasha to bring rice for my father".*

A parent (FGDP[18]) said,

> *"The house of Madrasha is broken, sometimes stays off without prior notice, and sometimes my daughter raises seedlings of rice plants. For these reasons, she missed the Madrasha."*

4.3.2 Parents Occupation

The main occupations of the guardians of Mymensingh areas were farmers, fishermen, small businesses, day labor, (HTI1[10]) etc. and nearly 60-80% of people are literate (HTI[3], HTI[4]).

On the other hand in Sylhet division the main occupations are farmer (HTI[12], [17]), sharecropper (HTI[16]), small business (HTI[17]), day labor (HTI[12]), expatriate (HTI[11]), Van driver (HTI[15]), rickshaw driver (HTI[13]), fisherman (HTI[18]), vegetable seller (HTI[15]) etc. Nearly 60-80% of people are literate (HTI[16]); in one place, it is below 30% (HTI[20]).

4.3.3 Parents Responsibilities

According to the headteachers, parents contacted us by mobile phone (HTI[3]) and attended Guardians Meetings (HTI[3]). Parents and students reported that home tutors (HTI8), parents themselves (HTI[5-6]), and brothers, sisters, and cousins taught their children (HTI[3-6]).

Headteachers of Sylhet division reported that parents sometimes come to school and ask about their children (HTI[13]). Parents said that they provided home tutors (HTI[18]) and sometimes taught their children (HTI[11-16]); brothers, sisters, and cousins also taught their children (HTI[13,14]).

4.4 Teacher's Teaching skill :Teaching skills of Math and Bangla teachers

According to the opinions of Assistant Upazila Education Officers of Mymensingh division teaching skills, both Math and Bangla teachers are very good as they received the subject-based training and the long-term professional training 'C-in-Ed/ DPEd. The respondent AUEOs also added that the teachers do not follow the Teachers' Guide regularly and do not use their training knowledge properly during teaching-learning. In this respect, an AUEO stated,

> *"Teachers are very much skilled in teaching Bangla and Mathematics as they received long-term professional training and also Subject- Based training on both Bangla and Mathematics, however, the teachers did not use Teacher's Guide for all the lessons and did not use relevant teaching aids regularly (AUEOI[1])".*

Another AUEO commented,

> *"Our teachers are very good at teaching both subjects Bangla and Mathematics because they receive different training regularly. Math Olympiad Training also had an impact on the Math teaching skills of the teachers (AUEOI[9])".*

The respondent AUEOs also opined that Teachers' skills and performance were in a stagnant position for a long time as the schools remained closed and classroom teaching was absent due to COVID-19. They added that after COVID-19 the teachers gradually overcame the situation as they got different guidelines and trainings. Another issue was raised by an AUEO that NNPS teachers are less qualified than the teachers of GPS.

On the contrary it is evident from the response of the AUEOs of Sylhet divisions that the quality of teaching-learning of the teachers of Sylhet division was `Good' but they were not sincere enough to teach the young learners properly. In this regard, an AUEO mentioned,

> *"The quality of teaching-learning of the teachers of both subjects Bangla and Mathematics is good, but the teachers are not sincere in performing their duties. As a result, they are losing the quality of their teaching skills day by day. (AUEOI[11])"*

Another AUEO stated, *"The quality of the Bangla teachers is good, and the quality of Mathematics teachers is medium, but the teachers of both subjects are not sincere in teaching-learning" (AUEOI[14])".* Similarly another AUEO stated, *"Average skills of the teachers are good, but Newly Nationalized school teachers are weaker than the teachers at Government Primary Schools (AUEOI[15])*".

4.5 Use of Teachers' Guides

The data of the Mymensingh division indicates that with some exceptions the mathematics teachers follow the instructions from the 'Teachers Guide' (TG) regularly during classroom teaching. A mathematics teacher who did not follow the teacher's guide regularly argued that she could not make time due to the 'pressure of conducting extra classes' is the reason. In her language,

"Due to overwork, I needed to be very busy, and I cannot make time to study TG (ATIM[9])".

In this respect, another mathematics teacher argued that the teacher's guide was not available to him. It is disclosed from the data of Bangla teachers of Mymensingh divisions that most of the teachers used TG for preparation and followed the instructions during teaching-learning. Those who did not conduct lessons according to TG argued that TG is not available in their schools. That is why they teach according to their thought or follow the way of online sessions. In this connection, a teacher stated,

"We did not have TG in our school. So, I teach my ideas. Sometimes I watch online sessions and follow the techniques they used (ATIB[8])".

It is indicated that the majority of math teachers in the Sylhet division frequently use a teacher's guide during teaching and learning. This information is based on the respondent teachers' opinions. On the other hand, those who did not consistently utilize or follow TG during conducting sessions claimed that they were too busy and did not have enough time for preparation. An assistant teacher contended that TG was absent from their collection. She stated

that she was *'too busy conducting lessons along with additional activities to read the instructions from TG and follow them properly' (ATIB[12]). Another teacher a*sserted, *"We did not have any TG in our school (ATIB[16]),"* another teacher. He also added, *"I did not get sufficient time for preparation as I needed to conduct huge lessons daily. Moreover, I feel comfortable in teaching in my idea (ATIM[14])".*

4.6 Bangla Teaching Learning Strategies

4.6.1 Teaching Pre-reading skill

Pre-reading skills were developed by teachers at the Mymensingh division through a variety of activities. To assist children in learning letter concepts and letter knowledge, they employed letter cards and charts (ATIB[5], ATIB[2]). Additionally, they included exercises where students had to recognize, write, and collaborate on letters (ATIB[6]). To teach vocabulary, they employed word cards (ATIB[2]). To introduce picture concepts, they paired words with pictures and matched sentences with pictures (ATIB[2]). They employed image charts, word cards, sentence cards, and matching games in addition to practicing vocabulary and matching words with pictures (ATIB[7], ATIB[6]), matching words and phrases, and matching sentences with pictures. Additionally, they practiced and chose challenging terms (ATIB[2], ATIB[3]).

Teachers at the Sylhet division also employed a variety of exercises to help students improve their reading skills. As an example, students can be engaged in reading by matching words with pictures (ATIB[11]), cutting out and drawing shapes from books, and separating words from sentences and letters from words (ATIB[12]). Students were asked to identify letters by looking at an image, explain the subject matter by looking at a picture, and utilize words or sentences (ATIB[12], ATIB[20]). A teacher remarked,

> *"I use pictures to check students' letter and word knowledge. I ask questions about the subject matter of pictures to the students to understand their performances. I let students discuss individually and in pairs. I let students guess what is in a picture by looking at it. I give examples that are relevant to real-life ATIB[15].*

"Some teachers also discussed the subject matter of the reading and pictures related to the reading to develop reading skills ATIB[19].

4.6.2 Teaching Reading with Understanding

Teachers at Mymensingh used a variety of techniques to improve their student's reading comprehension skills. These included having students construct sentences using their vocabulary, form paragraphs out of those phrases, and respond to questions based on those paragraphs. Proper pronunciation was taught to the students, and reading exercises were done in groups and individually (AITB[5]). Certain exercises help kids' reading skills considerably, but only to a certain extent. In this regard, a teacher reported that after assigning a paragraph for the students to read, the students attempted to respond thoughtfully to the questions (ATIB[2]).

In addition to pronouncing words correctly, reading comprehension was achieved through the use of compound words and joint letters, punctuation, and the creation of new words with conjunct letter reading (ATIB[2]). The passage used to be brilliantly read aloud by some teachers. After that, they would question the pupils to see how well they understood the material. In addition to encouraging students to generate their questions, they were going to ask analytical queries. Tests (ATIB[2], ATIB[6]) were given out every month. Furthermore, a few educators mentioned that they improved reading comprehension by employing question-answer and prediction techniques. In addition to their textbooks, they urged students to read additional materials (ATIB[7]).

In Sylhet, Bangla teachers employed various strategies to enhance reading comprehension. They would instruct students to read, listen, and then read aloud themselves. Afterwards, they would ask questions to assess their understanding and encourage them to read in pairs or groups (ATIB[11]). Additionally, upon completing a passage, teachers would ask students to explain its meaning, and pose questions, and if students could not answer, the teacher made them read again and help them understand (ATIB[12]). One teacher reported asking short oral questions after reading passages, encouraging students to express their understanding in their own words, checking written answers, asking them to fill in the blanks, and guiding them in forming sentences using new vocabulary (ATIB[15]). During reading, teachers would analyze the meaning of words, ask short questions, and motivate students to participate actively, thereby enhancing their comprehension (ATIB[16]). Simultaneously, some teachers implemented rereading strategies to cater to the needs of weaker students (ATIB[17])."

4.6.3 Teaching Bangla Grammar/Language Structure Features

Teachers in the Mymensingh division demonstrated how teachers instruct their students in grammar and language structures using a variety of methods. A teacher informed us that to help children learn grammatical principles, we should assign them exercises such as creating words out of letters, building sentences with words, demonstrating conjunct letters by separating them, and learning about the components of speech. ATIB[2]. They teach students how to use Shadhu and Chalita language structures, as well as how to recognize and use the various elements of speech. (ATIB[3]). Some teachers only teach what they are familiar with.

As a teacher, *I impart knowledge in my unique style by illustrating word breaking, using words in phrases, using opposite terms, and memorizing information (*ATIB[4]). Some of them use charts to teach while having students practice creating words and sentences and matching ATIB[6]. Teachers utilize textual word searches and part-of-speech identification tools (ATIB[7]) to assist pupils in developing their language structure. they taught students definitions of grammatical components, provided examples, and used a variety of teaching materials ATIB[1].

Teachers in the Sylhet division use words as examples when instructing students on the fundamentals of Bangla grammar and language structure. Present the conjunct letters. ATIB[11] carries out tasks like making words with the "kaar" sign. According to a teacher, I used to question students on the lesson's material, question about word meanings, teach them on how to compose sentences, and instruct them using a variety of questions and answers from ATIB[12].

Many types of gaming and word-building strategies known as "shabdajat" are employed by ATIB[15]. A teacher comments, presenting the fundamentals of language structures to the class, dissecting several phrases in a sentence and outlining the elements of speech ATIB[16]. strengthening reading abilities using forward students to help weaker students improve their reading abilities and the differentiation of weaker students from stronger students. There is extra writing and assignments for ATIB[19] practice. Instruction in proper pronunciation. ATIB[20] also teaches the Bangla grammar and language structure aspects through the acquisition of correctly pronounced words, letters, and sentences.

4.6.4 Teaching Bangla Vocabulary

In Mymensingh Division teachers use word ladders and grids, assign practice frequently, and set up student competitions to help students expand their Bangla vocabulary (ATIB[2]). Practices include using synonyms, reusing phrases, and combining other words with names (ATIB[6], ATIB[3]). According to a teacher, teaching the words in the book and creating rhymes, poems, or songs using their initial letters can help students remember them and practice them frequently, which is known as ATIB[4]. With the use of word cards, jumbles, synonyms, antonyms, and other images, ATIB[5] also helps with vocabulary growth. ATIB[7] is utilized through word grids, visual displays, gameplay, phrase creation, and word creation across letters. When teaching vocabulary, use the alphabetical list of words located at the back of the textbook to guide your pupils through ATIB[1].

A teacher of the Sylhet division said in the development of Bangla vocabulary,

> *"I used to teach the meaning of words over and over again. I used to explain to the students all the words in the lesson. I used to tell the students to pronounce difficult words repeatedly (ATIB[12]).*

They are asked to write words using letters by the teachers.

"I use word cards, repeated pronouncing of the word in standard pronunciation to help in vocabulary development (ATIB[11])" ,said a teacher, who is working on the skill of understanding and applying new word meanings.

"I engage them play word games and see genuine scenarios of new word constructions through writing, reading a greater number of words, and separating conjunct letters to create sentences. (ATIB[16]). Composing one-word responses is another effective way to expand vocabulary (ATIB[19]).

Another teacher mentioned,

"Repeating novel terms is used for tasks like pair work (ATIB[20])".

4.6.5 Bangla Classroom teaching and assessment strategy

The opinion of students indicates that Bangla teachers in the Mymensingh division generally greeted each other before class began. They subsequently reviewed the lesson from the previous day using the Bangla textbook. Teachers help pupils remember if they were unable to do so (FGDS[2]). They checked for homework if any was assigned (FGDS[9]). The significance of legible

handwriting was underscored (FGDS[3]). Following that, the teacher sequentially taught Reading (FGDS[4]). After reading aloud to the class, the teacher urged everyone to do the same. According to the students, "Sir read the lesson himself. He requests us to read. He reviewed the lecture when the reading was done (FGDS[6]). Then he explained. Occasionally, she read aloud and wrote the lesson, broke down a word's combined letters and wrote them on the board, or she displayed relevant teaching materials (FGDS[8]). She asked questions, filled in the blanks, and clarified word meanings (FGDS[6]). She asked for them to write.

> "*Ma'am wrote on the board and said, 'read this', then wrote on the board again and said, 'write this', we wrote and showed it to Ma'am. Sometimes she asked us to create questions from Reading. If no one could, he explained it at the end of the class*" (FGDS[7])).

She assigned homework and took attendance. If there was time, she taught a little more (FGDS[6]). She asked the students to write the joint letters in their notebooks. He evaluated them by giving them other tasks, including the meaning of words from the relevant lesson (FGDS[8]). On the occasion of NSA, teachers had specially conducted Bangla language teaching activities through reading, question-answering, and pair or group-based support. For example, in FGDS[9], students commented:

> "*In our class, the teacher had broken down words and had discussed their meaning and usage. He had taught us to spell five-line readings and had written them in our notebooks. He had taken class tests every week. After teaching in class, he had asked questions and asked us to write - if someone couldn't, he had explained. Sometimes we also explained to others."*

Teachers used to begin their Bangla classes by collecting attendance and sharing greetings, as per the opinions of the students in the Sylhet division. From time to time, he would let us read something. He used to ask us to write after reading and ask different questions; if someone couldn't, he would explain" FGDS[17]. After evaluating the previous lesson, teachers would arrive at class and begin the new one. She would alternate between asking every student to read aloud and reading herself.

In the words of the students, for example, *"Madam frequently came to class, used to conduct the previous lesson, explained today's lesson, began reading herself first and then used to ask us to read with her and then proceeded to ask us to read one by one" FGDS[13].*

In addition, teachers used to ask students to write the previous day's lesson, used to ask them to write today's lesson, explain it, check their writing, and ask about their homework orally FGDS14. In some cases, teachers used to consider vocabulary, question-answering, word knowledge, and comprehension while teaching. For example, in the students' words,

> "*The teacher used to teach us vocabulary, used to help us learn questions, used to teach us reading, used to teach us correct spelling, used to teach us the main idea, used to correct our mistakes when writing, and used to help us fill out forms* (FGDS[19])".

However, in some cases, students have also mentioned that teachers emphasized memorization. For example, from the FGD of the students, it is found that

> "*The teacher used to make us do exercises, used to teach us from the guide (Fulkoli), used to make us memorize. Then he used to let us speak without looking at the guidebook, used to ask us*

to write sometimes, used to give us reading for the next day, used to make us memorize questions (answers), used to let us present in front of the class, used to give us homework" FGDS[11].

Teachers are used to call our names, ask us to open our books, read, ask us to read, used to write word meanings and joint letters on the board and used to make us memorize them, used to ask questions, and used to ask us to write FGDS[12].

Students from one school felt that their teacher did not teach well because he came from far away.

"*He used to teach reading by spelling, the teacher comes from far away and does not teach well. Practice less writing activity* " FGDS[18].

In addition, in some places, teachers used to present lessons without preparation and did not show much enthusiasm. For example, in the student's words,

"*The teacher used to come to class and used to ask what today's lesson is, used to ask us to write, used to scold those who couldn't, used to give us reading for the next day*" FGDS[20].

4.7 Mathematical Teaching Learning Strategies

4.7.1 Teaching numbers and counting

Teachers of the Mymensingh division mentioned that they use concrete aids like sticks. sting, seeds, marble, abacus etc., and semi-concrete teaching ais like number chart, number cards, blocks in teaching number and counting (ATIM[5], ATIM[7]). Some of them mentioned that they invite students in front of the class and let them say the written number on the board and write the number on the board (ATIM[3], ATIM[9]). They also mentioned that they use math Olympiad techniques like ten's machine, and number line. hungry crocodile, line breaking and line making techniques in developing the number and counting concept of students (ATIM[2], ATIM[4]). A teacher mentioned (ATIM[2]),

"I develop students' number and counting concepts through math Olympiad techniques as colored number cards, ten's machine, hungry crocodile, line making and line breaking etc."

A teacher (ATIM[5]) said,

"*I use concrete aids like sticks, seeds, marbles and semi-concrete aids like number cards, charts in teaching and number and counting."*

Teachers of the Sylhet division mentioned that they use teaching concrete aids like sticks. sting, seeds, marble, flowers, leaves etc., and semi-concrete teaching aids like number charts, number cards, and blocks in teaching number and counting (ATIM[11], ATIM[12], ATIM[15], ATMI[19]). A teacher mentioned (ATIM[12]),

> *"I present problems like addition and orally explain how to add. After that, I write the addition on the board and ask the students to copy it on their khata. In word problems related to addition, I read the problem and make them understand the solution. After that, I solve the problem on the board and let the students copy the solution."*

A teacher (ATIM[17]) mentioned,

"I invite students in front of the class and let them say the written number on the board and write the number on the board."

4.7.2 Teaching measurement

In response to the teaching techniques of measurement teachers of the Mymensingh division mentioned that they use different kinds of measurement instruments like scales, tape, bottles, balance scales, batkhara, and model watches to develop students' concept of length, weight, volume and time measurement (ATIM[2], ATIM[4], ATIM[5], ATIM[6]). They help the students to gain practical knowledge through measuring things with different kinds of instruments (ATIM[3], ATIM[4], ATIM[6], ATIM[7]). They use measuring units' charts to make their understanding of the relation of different units of measurement (ATIM[2], ATIM[6], ATIM[7]). ATIM[2] mentioned,

> "*I use different kinds of measuring instruments to make their understanding about the measurement of length, weight, volume and time. I also use units of length, weight, volume and time conversion charts in teaching measurement."*

A teacher (ATIM[4]) said *I collect measuring instruments like a balance scale, and batkhara from the local shop and help the students to gain practical experience in measuring".* ATIM[6] said*,*

> *"I use a variety of tools to assist the students in attaining practical measurement experience. To help the students comprehend how various measuring units relate to one another, I utilize measuring unit conversion charts. In my classes, I also assist the students in resolving measurement-related issues."*

In response to questions about their methods of instruction, teachers of Sylhet division stated that they develop their students' understanding of length and weight measurement by using a variety of measurement instruments, including books, tape, scales, khata, balance scales, batkharas, and model watches (ATIM[14], ATIM[15], ATIM[16], ATIM[17], ATIM[18], ATIN[19], ATIM[20]). The teacher (ATIM[17]) uses various units to illustrate how to measure commodities. By measuring objects with various equipment, they assist the students in gaining practical knowledge (ATIM[15]). ATIM[17] stated, "*I demonstrate how to measure lengths and weights of various objects in the classroom using a variety of measuring instruments*."

One of the teachers (ATIM[12]) stated,

> "*I demonstrated different shapes to gain their knowledge about angles, show books to gain their knowledge about surfaces, show and draw triangles to gain their knowledge about triangles, show round shape things to gain their knowledge about circles,*"

4.7.3 Teaching geometric figure

Teachers in the Mymensingh division responded to the methods used to teach geometric shapes in the classroom by stating that they make use of various origami, tangram, objects inside the classroom (ATIM[2]), rulers, campuses (ATIM[4], ATIM[10]), etc. To expand the kids' understanding of geometrical forms and figures such as triangles, rectangles, and cycles, they also use hand-made shapes and various household items that the students have used, such as books, khata, tables, chairs, plates, glasses, and other items (ATIM[7]). Additionally, they sketch the figure on the board and invite the pupils to do the same (ATIM[9], ATIM[10]).

According to ATIM[3],

> *"I demonstrate and encourage the students to understand the instruments of geometry box, and I let them change the shapes with logic in the classroom." The children are also allowed to create different shapes using blocks and cutting paper. In my geometry lesson, I also allow the kids to work in groups and individually. I appreciate students who are struggling and provide them with additional assistance".*

ATIM[6] teacher stated,

> "*I use teaching aids and various elements of the environment to help the students identify shapes and gain knowledge about geometrical shapes and figures*."

ATIM[9] said,

> *"I help the students to gain knowledge about geometrical shapes through handmade aids. I draw the shapes on the board and help the students to draw the shapes on their khata. sometimes I ask the students to draw the shapes on the board."*

Teachers of the Sylhet Division responded to the teaching methods of geometric form teaching in the classroom by indicating that they utilize various tools in the classroom (ATIM[15]), such as a ruler and compass (ATIM[13], ATIM[18]), among other things. To expand their students' understanding of geometric figures and shapes like triangles, rectangles, and cycles, they also use handcrafted tools and objects that resemble everyday objects (ATIM[19], ATIM [20]). Additionally, they sketch the figure on the board and invite the pupils to do the same (ATIM[17], ATIM[18]).

ATIM[17] mentioned,

> "*I let the students make different shape by cutting paper and by using blocks, I showed real aids to gain knowledge about geometrical shape after that I drew the shapes on the board to make them clear understanding. Sometimes I let the students to draw the shapes on the board."*

ATIM[20] said,

> *"I help the students to gain knowledge about geometrical shapes through handmade aids. I draw the shapes of triangles, rectangles and circles on the board and help the students to draw the shapes on their khata. I check their drawing and help them to draw correctly."*

4.7.4 Math Assessment Techniques

To make sure that students are learning in the classroom, assessment is crucial. Results for students are also impacted by assessment. Teachers from the Mymensingh Division who were interviewed stated that they use oral, written, and observational methods to evaluate students' learning both during and after mathematics classes (ATIM[2], ATIM[5], ATIM[7], ATIM[9]). Even so, they use weekly and monthly exams to evaluate pupils' proficiency in mathematics. Regarding this, a teacher (ATIM[2]) stated, *"I use oral, written, and observation to assess my students both during and after the mathematics lessons. I also take exams every week and every month, and I act appropriately based on the findings.*

"*I assess students' learning by having them read the numbers and perform addition, subtraction, multiplication, and division on their khata during math's lessons*," mentioned a teacher (ATIM[6]).

Another teacher (ATIM[4]) remarked that

"I give out homework and grade it. I also post problems including addition, subtraction, multiplication, and division on the board and instruct the students to work on them. I then check their answers on their khata. I occasionally ask pupils to complete the tasks or find solutions on the board".

4.8 Developing domain-based item

It is explored from the data of ATBs of Mymensingh division that with some exceptions the teachers can develop domain-based questions, however, by the want of regular practice they are not skilled enough in doing this. They usually prepare questions from the Knowledge, Understanding and Application sub domains of the Cognitive domain. ATMs also opined that their skills in preparing domain-based questions are almost the same and some teachers are lacking due to inefficiency in preparing domain-based questions by the want of training in the relevant area. In this connection, an AT commented,

"I don't have skills in doing domain-based questions as I did not get training on doing this **(***ATIM[4])".*

The teachers' opinions about their abilities to prepare Domain based Questions are also supported by the relevant headteachers (HTI[3], HTI[5], HTI[2], HTI[1], HTI[9], HTI[6], HTI [8]: HTI[7],_HTI[4]). In this connection, a headteacher commented,

"Teachers usually prepare questions from Knowledge, Understanding and Application sub-domains. From my interest in domain-based questions, I have observed this. (HTI[9])"

Another headteacher added,

"Now the question is prepared under a cluster basis. That is why all the teachers do not get the opportunities of preparing questions (HTI[1])".

All the relevant AUEOs of the Mymensingh division opined that however most of the teachers are capable of doing domain-based questions but not efficiently from all the domains/sub-domains. In this connection, an AUEO from the Mymensingh division commented,

"Teachers can prepare domain-based questions, but in practice, everybody does not apply it during student assessment. Training was provided to them and most of them proved their skills in doing questions from Knowledge and Understanding sub-domains, but till now many teachers face problems in preparing Application type of questions (AUEO[1])."

In this connection, another AUEO mentioned,

"After introducing a new curriculum teachers gave importance to preparing domain-based questions for student assessment. We also inspire them in doing this (AUEO[4])".

It is revealed from the data of ATB of Sylhet division that some teachers can prepare domain-based questions, while others opined that they are not capable of doing that. A respondent

commented, "*I do not have any idea about domain-based questions (ATIB[8])".* It is also important to note that the respondents who can develop domain-based questions do not practice their skills all the time and someone commented, *Due to lack of practice I have forgotten many things about preparing domain-based questions (AITB[1])".* Bangla subject teachers also informed that usually, they can prepare three sub-domains of Cognitive domain like knowledge, understanding and application. On the other hand, Mathematics subject teachers showed their confidence in preparing domain-based questions and practicing their skills, however, some of them could not say properly the names of three domains or their subdomains. Even though they could not give examples of understanding or application type of questions, their headteachers appealed that their teachers can prepare domain-based questions and usually they do it. In this regard, the relevant AUEOs opined that some teachers can develop domain-based questions, but many teachers are not enough efficient in doing this. In this connection, an AUEO mentioned,

> *"Teachers have a general idea in preparing domain-based questions, but usually they do not use it during presenting lessons and assessment. Especially most of the teachers from newly nationalized lack this efficiency (AUEO[13])".*

Another AUEO commented,

> *"Teachers are not efficient enough in preparing domain-based questions. By the want of necessary skills, their understanding or application types of questions turn into Knowledge-type questions. So, they need training regarding this issue, and they also need more and more practice (AUEO[12])".*

Another AUEO (AUEO[14]) blamed the 'Cluster Based Question Preparation System' for less practicing of domain-based questions by the teachers.

4.9 Support Students in Learning

According to data of Mymensingh and Sylhet, teachers of different schools and areas took various activities to help students learn. Some of the activities taken by the teachers of the two divisions along with the teachers' opinions are presented below:

4.9.1 Feedback activity

This section attempts to reveal various remarks of head teachers, teachers, ATEOs and students about different strategies adapted as feedback for lagged-behind students. Specific examples of activities and teacher opinions are not provided by Sylhet divisions.

4.9.2 Baseline survey

Headteachers of the Mymensingh division stated that they knew about the academic status of the students through a Baseline survey (HTI[1], HTI[8]). Assistant teachers also identified the lagged-behind students through the baseline and formed coordination teams of advanced-level students and students who were lagged (ATIM[8]). In this regard, AUEOS also provided supportive information on identifying students who were falling behind through the baseline (AUEO[4]). By evaluating the baseline result, they gave more importance to the students by managing separate time during class (HTI[7]). Data of Sylhet Division did not provide any specific information about baseline survey.

4.9.3 Forming Collaborative Study Group

To assist underperforming students headteachers of Mymensingh division identified underperforming students and formed coordination teams of proficient and underperforming students (HTI[3], HTI[1], HTI[5], HTI[2], HTI[6], HTI8, HTI[7]). Bangla assistant teachers divided students into different groups and arranged for strong students to help weak students (ATBI[1], ATIB[2]. ATIB[3], ATIB[7]). Mathematics teachers also provided the same information on team formation and implementation with proficient and underperforming students (ATIM[3], ATIM[5], ATIM[7]). The Assistant Upazila Education Officers provided their consent on the coordination of proficient and underperforming students in group work. (AUEO[1], AUEO[4] AUEO[5] AUEO[8]).

4.9.4 Providing Extra Time

Headteachers of Mymensingh division planned to provide extra time for identified underperforming students (HTI 3, HTI 2, HTI 1, HTI 10). Assistant Bangla teachers arranged special classes for lagging students before and after the scheduled school time and provided special lessons (ATIB[1], ATIB[2], ATIB[4], ATIB[5], ATIB[6], ATIB[7], AITB[9]). Teachers also arranged to provide extra time and care in classes for identified lagging students (ATIB[3]). Math teachers also arranged special lessons for lagging students before and after the scheduled time (ATIM[2] ATIM[5] ATIM[7] ATIM[9]). Some teachers provided extra time separately for lagging students (AITM[3], ATIM[4]). In addition, ATEOs also gave their opinion on teaching outside the scheduled time and taking special care by forming separate teams (AUEO[1], AUEO[2]). They also planned for special examinations (HT[10], AUEO[3]).

4.9.5 Classroom activities taken by teachers for underperforming students

Based on the feedback from students of Mymensingh division, it appeared that teachers used a variety of methods to help students understand math and Bangla.

If students didn't understand, teachers explained math problems by drawing them on the board and writing them down in notebooks (FGD[2]). Teachers also suggested they take the help of their guardians (FGDS[6]). They used sticks, cotton buds, or pens to explain (FGDS[8]). They made students practice repeatedly, and if they still didn't understand, teachers assigned homework. If students struggled with a word or compound consonant or joint letter, teachers first taught them the spelling. They broke down complex words on the blackboard to explain them (FGDS[3]). They taught students to memorize the meanings of words and then check their comprehension. They taught students to questions answer, fill in the gaps, put tick marks, use proper spelling, identify antonyms, and use punctuation marks correctly (FGDS[2]). One of the students said,

> *"Teachers keep explaining until we understand. They bring us to the board to do math and explain concepts using examples from their students." (FGDS[3]).*

4.9.6 Direct Feedback and remedial

Headteachers of Mymensingh division provided feedback (HTI[5]) and also took remedial measures (HTI[3], HTI[5]). Headteachers also mentioned that teachers provide individual support to

students if needed (HTI[1]). Headteachers mentioned that in some cases remedial measures were provided through team leaders (HTI[9]). Teachers of Bangla and mathematics also expressed their support for remedial measures (ATIB[1], ATIB[2], ATIB[3], ATIB[5], ATIB[7], ATIM[3], ATIM[7], ATIB[9]). AUEOs advised teachers to take remedial measures (AUEO[7], AUEO[8]). They also advised teachers to give extra time to weak students during evaluation at the end of class time (AUEO[7])"

4.10 Extra class for underperforming students

According to the opinion of headteachers in Sylhet Division, headteachers arranged extra classes for lagging students (HTI[11], HTI[13], HTI[18], HTI[14], HTI[19]). Teachers who were free in the 1st shift took classes for grades 3-5, and those who were free in the 2nd shift took classes for grades 1-2 (HTI [11]). The feedback from mathematics teachers also **s**upported the provision of extra tuition (ATIM14). In addition, teachers often brought lagging students close to them and provided them with intensive support (ATIB[11,20] ATIM[15]). The issue of special care was also supported by the feedback of AUEOs (AUEO[16]).

4.11 Forming a coordination team of proficient and underperforming students

Headteachers of Sylhet division identified weak students and formed mixed-ability groups of strong and weak students for teaching-learning (HTI[15],[17],[20]). The feedback from assistant teachers also supported this approach. Bangla subject assistant teachers formed mixed ability pairs and groups for classes (ATIB [11],[12],[15],[19],[20]). Mathematics teachers also expressed similar views on this issue (ATIM [11], [12], [15], [18] [19], [20]). AUEOs also advised teachers on grouping and providing necessary support (AUEo[11]). Students also mentioned supportive opinions in this respect (FGDS[17])

4.12 Trying again and again

According to headteachers, subject teachers made repeated attempts to overcome the weaknesses of lagging students (HTI[16], HTI[12]). Assistant teachers also expressed their agreement with repeated attempts (ATIB[12], [20] ATIM[15]). Students also mentioned in their opinion that teachers would explain things multiple times if they did not understand a subject (FGDS[11], [12], [14], [16,18]). However, due to the lack of regular classes, many students could not understand the subjects properly (FGDS[13]).

4.13 Support Students Learning During Covid-19

4.13.1 Learning loss during covid-19

This section examines the perspectives of headteachers, subject teachers, and education officers regarding student learning loss during COVID-19 school closures in Mymensingh Division and Sylhet Division.

4.13.2 Learning Loss

Widespread impact: Most stakeholders reported a significant degree of learning loss among students across various subjects. Headteachers estimated that nearly half of their students experienced learning difficulties (HTI[1]). All respondents agreed on a significant learning loss across various subjects. Headteachers reported a learning gap persisting even after schools reopened (HT[I5], HTI[11]).

Subject-Specific Challenges: Bangla and Math were identified as subjects where students faced the most severe learning loss (HT[I4], ATIB[1], ATIM[2]). Issues included forgetting the Bangla alphabet, struggling to read fluently, and facing difficulties in fundamental math operations like place value and calculations (HTI[2], HTI[3], HTI[5], HTI[6], ATIB[2], ATIB[3], ATIB[6], ATBI [7], ATIM[2], ATIM[3]). Grade 5 students were identified as particularly struggling to achieve expected competencies (HTI[11]).

Variation in Impact: One Headteacher reported no learning loss in their school (HTI[10]), suggesting potential differences in the effectiveness of implemented mitigation strategies across schools. One Math teacher also mentioned some students without learning loss (ATIM[3]). Some students who received support from guardians at home exhibited less learning loss (HTI[12]). However, others, especially those with prior learning gaps, faced significant challenges, including the inability to read fluently (HTI[12]).

Factors Contributing to Learning Loss

Socio-economic Disparities: Headteachers highlighted the impact of socio-economic background. Students with guardians who were day labourers faced greater learning difficulties due to limited support at home (HTI[9]).

Ineffective Remote Learning Strategies: While some efforts were made (e.g., home visits, worksheet distribution, broadcast radio and TV content), the Education Officer acknowledged limitations in minimizing learning loss despite these measures (AUEOI [3]).

Incomplete Learning Cycles: One Headteacher pointed to promotions to higher grades without achieving grade-level foundational skills, exacerbating learning loss (HTI[7]).

4.13.3 *Subject-Specific Challenges*

Reading Difficulties: Both Headteachers and subject teachers highlighted a high prevalence of reading difficulties. Students forgot letters, struggled with pronunciation, and lacked comprehension skills (HTI[11], HTI[15], ATIB [11], ATIB [12]).

Math Difficulties: Like reading, Math emerged as another major challenge. Students forgot basic concepts like numbers, place value, and fundamental operations (HTI[17], ATIM [11,] ATIM [15], ATIM [18], ATIM [20]).

Factors Contributing to Learning Loss

Learning Discontinuity: Subject teachers attributed learning loss to the disruption of regular classroom learning during school closures (ATIB[12]). Promotions without achieving grade-level competencies further exacerbated the issue (ATIB[12]).

Limited Support at Home: Headteachers pointed out that students lacking support from guardians at home faced greater learning difficulties (HTI[12]).

Overall, the data suggests a severe learning loss among students in Sylhet Division following COVID-19 school closures. Reading and Math were the most affected subjects. The lack of continuous learning opportunities and limited support at home seem to be key contributors to this learning loss.

4.13.4 Learning during covid-19

This section analyzes the experiences of various stakeholders regarding student learning during the COVID-19 school closures in the Mymensingh Division.

School Initiatives

Headteachers reported implementing various initiatives to support learning continuity. These included-

Online Classes: Headteachers mentioned using online platforms like Zoom and WhatsApp for online classes (HTI[1], HTI[6]).

Small Group Teaching: Some schools organized teaching in small groups at student locations (HTI[3]).

Distributing Worksheets and Feedback: Distribution of worksheets with feedback mechanisms ensured continued learning (HTI5).

Home Visits: Regular home visits by teachers provided personalized support (HTI[3]). In addition, one headteacher described assigning 10 students per teacher for targeted home visits (HTI[8]).

Mobile Communication: Schools maintained communication with students through phone calls based on class lists and area-based distribution (HTI[1]); Accessing Audio and Video content**:** They encouraged students to utilize educational programs broadcasted on Bangladesh Betar and Sangshad Television (HTI[4]).

However, one Headteacher (HTI[10]) reported no significant impact of COVID-19 on their school, suggesting a potential lack of adaptation in that specific case. Additionally, another Headteacher (HTI[7]) mentioned parental involvement in continuing student learning at home during the closure.

Teacher Experiences

Assistant Teachers (AT) supported the initiatives mentioned by Headteachers. They distributed worksheets during home visits (ATIB[2], ATIB[3], ATIB[4]); conducted online classes using Zoom and WhatsApp (ATIB[2], ATIB[3], ATIB[4]); communicated using mobile phone**s** for teaching and assigning homework (ATIB[2], ATIB[3], ATIB[4])**.** Divided catchment areas for targeted student interactions and group lessons (ATIB[6]). One Math teacher further elaborated on conducting online classes, followed by home visits to assess learning progress and provide assignments with student profiles (ATIM[7]).

Education Officer's Perspective

An Assistant Upazila Education Officer (AUEO) mentioned, besides conducting online classes, distributing worksheets and home visits, and sharing learning materials using messenger groups to invite students during the pandemic.

Student Experiences

Students primarily reported studying at home, participating in online classes, and working on school-provided worksheets (FGDS[2]). Some students gathered at a classmate's house for teacher-led sessions and received assignments (FGDS[2]). They also mentioned phone communication with teachers, parental and relative support, and utilizing educational content from Bangladesh Betar (radio) and Sangshad TV.

Guardian Perspectives

Guardians described their children attending sessions at designated locations, receiving worksheets and assignments, and watching educational television content. Radio content usage seemed less prevalent among students as reported by guardians.

This section examines the experiences of various stakeholders regarding student learning during the COVID-19 school closures in Sylhet Division.

Challenges with Online Learning

Headteachers reported limited student participation in online classes due to factors like a lack of smartphones among guardians (HTI[13]). An AUEO confirmed the reliance on worksheet-based learning due to the absence of viable online options (AUEO[1]). One Math teacher described adapting online classes to evening time slots to accommodate guardian availability (ATIM[11]).

Multi-faced Approach by Schools

Schools used a variety of tactics despite the restrictions associated with the internet, such as Worksheet Distribution. Headteachers and assistant teachers placed a strong emphasis on giving worksheets to pupils during home visits or through guardians (HTI[15], HTI[19], ATIB[11], ATIB[12], ATIB[15]). **Phone Communication**: To track students' progress in their studies and offer support, teachers kept in touch with students and guardians via phone calls (HTI[12], ATIB[11], ATIB[12],

ATIB[15]). **Content Access via Radio and TV**: Educational program on Bangladesh Betar and Sangshad Television (HTI[12], ATIM[11]) are recommended for students to watch and listen to in class.

Limited Online Participation: Students mirrored the low online class participation rates reported by teachers.

Focus on Worksheets and Traditional Methods: Students primarily reported studying at home, working on worksheets, and receiving support from guardians and relatives. Guardians confirmed their children's participation in worksheet-based learning and watching educational television content.

Socio-economic Disparities: Some guardians expressed their inability to assist their children's learning due to illiteracy.

4.14 Remedial plan for learning loss

This section examines the initiatives implemented in Mymensingh Division schools to address learning loss due to COVID-19 school closures, along with the perceived impact on student progress.

4.14.1 Strategies Used

- **Identifying Learning Gaps:** Headteachers used baseline surveys to identify slow learners and students with significant learning gaps (HTI[1], HTI[3], HTI[5], HTI[6]).
- **Targeted Support:**
    - **Extra Classes:** Schools offered extra classes before and after school hours for slow learners (HTI[1], HTI[3], HTI[5], HTI[6]).
    - **Individualized Support:** Teachers provided extra time and personalized assistance to students with severe learning gaps (HTI[3], HTI[8]).
    - **Mixed-Level Groups:** Class activities involved mixed-level student groups to promote collaboration and peer learning (HTI[3], HTI[1], HTI[8]).
    - **Shift Adjustments:** Some schools offered students with learning loss the opportunity to switch to the first shift for more focused teacher support (HTI[8]).
- **Accelerated Learning:** Schools adopted an "Accelerated Learning Package", where teachers revisited basic concepts from previous grades to build a strong foundation before progressing (HTI[7]).
- **Engagement Strategies:** Some schools incorporated activities like sports, drawing, and music to increase student attendance and overall engagement (ATIM[4]).
- **Remote Learning Initiatives (During Closures):**
    - **Home Visits:** Teachers conducted home visits to distribute worksheets, provide guidance, and motivate students and guardians (ATIB[4], ATIB[2], ATIB[3], ATBI[5], ATIB[7]).
    - **Phone Calls:** Teachers maintained communication with students and guardians through phone calls to ensure continued learning activities during school closures (ATBI[5], ATIB[7]).

- **Audio and video content:** Teachers advised students to utilize educational radio content and television programs to keep up their learning during the pandemic (ATBI[5], ATIB[7]).

4.14.2 Monitoring Progress of Learning Recovery

- **Classroom Assessments:** Teachers conducted regular classroom-based and weekly assessments to track student progress in recovering learning gaps (HTI[1], HTI[2], HTI[8]).
- **Improved Performance:** Teachers reported improvements in various areas, including:
  - **Reading Fluency:** Students in Bangla classes achieved independent reading fluency without teacher support (HTI[3], HTI[4], HTI[6]).
  - **Math Skills:** Students demonstrated increased problem-solving confidence and the ability to solve problems using real-world applications (HTI[7], ATIM[6]).
  - **Test Scores:** Improved performance in class tests indicated progress in addressing learning gaps (ATIB[7]).
  - **Guardian Feedback:** Headteachers reported positive feedback from guardians, noting improved responsiveness, better assessment results, and overall progress in student performance (HTI[7]).

This section examines the initiatives implemented in Sylhet Division schools to address learning loss due to COVID-19 school closures, along with the perceived impact on student progress.

4.14.3 Strategies Employed

- **Maintaining Engagement During Closures:**
- **Home Visits and Guardian Meetings:** Schools conducted home visits and meetings to motivate parents and students to continue learning activities (HTI[14], HTI[15]).
- **Worksheet Distribution:** Schools distributed worksheets to students during home visits (HTI20).
- **Online Classes:** Some schools attempted online classes, though their effectiveness was not explicitly addressed (HTI[20]).
- **Strategies After Reopening:**
- **Extended Class Time:** Schools implemented a revised class schedule with an extra 10 minutes per session to dedicate more time to covering learning loss (HTI[19]).
- **Mixed-Ability Grouping:** Teachers incorporated mixed-ability student groups for class activities to facilitate peer learning and support (HTI[11]).
- **Targeted Support:** Schools conducted special sessions for slow learners to address specific learning gaps (HTI[11], HTI[14], HTI[15], HTI[16], HTI[17]).
- **Reviewing Fundamentals:** Similar to Mymensingh, after reopening Sylhet teachers reviewed basic concepts, particularly the Bangla alphabet and numeracy skills, for all students in each grade (HTI[13], ATIB [11]).
- **Homework:** Teachers assigned more homework and encouraged guardian support with students' learning activities at home (ATBI[15], ATBI[19]).

- **Math Skills Focus:** Math teachers specifically focused on introducing basic concepts like numbers, addition, and subtraction, with an emphasis on practising these skills at home (ATIM[13]).

4.14.4 Monitoring Progress

- **Engagement and Participation:** Teachers observed increased student engagement in class activities and a prompter response to questions (HTI[14], HTI[17], HTI[20], ATIM[11], ATIM[14]).
- **Written Work:** Teachers reported that students were able to write in exercise books and answer questions in writing (HTI[15,] HTI[19]).
- **Classroom Assessments:** Teachers utilized classroom assessments and homework evaluation to track student progress (ATIB [16], ATIM [15]).

4.15 Challenges that teachers face During Teaching and Learning

From the data of the Mymensingh division, it is evident that teachers had to face different challenges during teaching-learning. Bangla subject-based teachers opined that the common challenges that they had to face during conducting class were: that most of the students were not competent readers, some of them could not read without the help of others, some learners could not recognize letters, the learners faced more difficulties in reading the joint letters, some students cannot read the words or sentences by connecting the letters or words. Some of them had problems with pronunciation. In this connection, ATB commented,

> *"Many learners could not read competently from the text, many of them could not recognize letters or joint letters, some learners did not know 'Kar'or Fola sign, some learners could not connect letters or words and read the sentences (ATIB[2])".*

In this connection a headteacher mentioned,

> *"All the learners of the class can not read or write smoothly, some students do not recognize letters and cannot read from the text by spelling. As a result, they become backward learners in all other subjects (HTI[11])".*

In this connection, an AUEO mentioned, *"During teaching Bangla the teachers had to face different problems like some students can not read joint letters, difficult words, kaar sign and recognizing alphabets (AUEO[I3])".*

Mathematics teachers of Mymensingh division also disclosed that many students of Grade Three did not have a clear idea about place value, substruction, fractions and geometric shapes. In this connection, a mathematics teacher mentioned, *"I had to face a lot of problems while teaching fractions. I could solve the problems by taking advice from my headteachers and senior teachers (ATIM [4])"* The headteachers also mentioned the same problems. In this connection, a headteacher commented, *"The students had weakness in the basic four rules of Mathematics. We tried to solve the problems by providing individual support and making groups including advanced and slow learners (HTI[1])".* Similarly, an AUEO commented*, "Students could not smoothly solve the problems related to the basic four rules of mathematics and Place value (AUEOI [1])".*

Another challenge that the teachers had to face during teaching-learning is the irregular absenteeism of the learners. In this connection a Bangla teacher commented, *"Some learners usually do not come to school regularly. As a result a learning gap is created. Some students get admission into the school with learning gaps (ATMI [4])".*

Similarly, a headteacher commented,

> *"The biggest challenge that the teachers had to face is irregular attendance of the learners. When the teachers started a story, poetry or practice a new rule of mathematics, some learners were absent before completing it. As a result, a learning gap was created and it was never possible to fill up the gaps later (HTI[9])".*

The same problem is mentioned by an AUEO*, "For irregular attendance of the learners the teachers had to face a lot of problems during teaching-learning (AUEO[I6])".*

Another problem that the teachers had to face was the negative attitude of the learners towards study and very poor basic subject knowledge. In this connection, a math teacher commented, *"As an effect of long time school closure during COVID a negative attitude towards studies was created among the learners and their basic knowledge in Bangla and Mathematics were very weak (ATIB[1])".*

The data from the Bangla teachers of Sylhet division indicates that the teachers had to face a lot of problems during teaching-learning like the learners of Grade three forgotten reading and writing. They could not recognize letters, joint letters, or kaar signs and thus could not read from the texts. Similarly, they could not write letters, joint letters, kaar signs, words and sentences. A Bangla teacher commented, *"They forgot letters, could not read from the text or write. I had to start everything from the beginning (ATIB[13])".*

The math teachers also informed me that they had to face many problems. The learners forgot to read the numbers and counting. They forgot the place value of numbers and also forgot to solve the problems related to the four basic rules of mathematics, even if they could not read big numbers. A mathematics teacher commented,

> *"The learners forgot counting numbers, solving simple problems of adding, substruction, multifurcation or division. Many children needed to provide support again and again but they could not understand the topic properly (ATIM[13])".*

The head teachers' experience was almost the same of Bangla and Mathematics teachers. A headteacher*'s comment is mentionable here,*

> *"The problem of the learners is that some learners cannot recognize numbers, some learners could not count the numbers smoothly, some learners had problems in additions and substructions. The basic knowledge in mathematics of Grade Three students was like the level of Grade One students (HTI[13])".*

AUEOs addressed two major problems that the teachers had to face during teaching-learning. An AUEO mentioned,

> *"The learners did not come to school regularly. They were less interested in school. Most of them could not read or write properly, even they could not recognize Bangla letters, and in Mathematics their basic knowledge was very poor even they could not recognize or count numbers (AUEO[14])."*

4.16 Parent teachers' communication

- Headteachers maintained regular communication with parents and arranged home visits to support the progress of lagging students (HTI [3], HTI [2,] HTI[4] HTI [7]). Assistant teachers also mentioned in their feedback that they regularly communicated with parents and made home visits (ATIB[2], ATIB[3], ATIB[4], ATIB-[6], ATIM[2], ATIM[3,] ATIM[6], ATIM[9]). Teachers also used mobile phones to monitor students' overall development and attendance (ATIB[2]). They organized mother meetings and parent meetings (ATIB[3], ATIB[4]). They consulted with the headteacher if necessary (ATIB[1]). They arranged home visits (ATIB4). AUEOs also expressed their opinion that they provided necessary guidance in this regard (AUEO4).
- In addition, headteachers provided homework, brought students to the blackboard for extra support (HTI[7]) and arranged special counselling for the overall development of lagging students (HTI[4]). For example, In the words of a headteacher, mentioned,

> *"We took steps to strengthen the weak through our efforts. The Bangla teacher asked students to read 5/10 lines (from regular reading/outside SRM) with spelling and write them down in their notebooks every day. Occasionally, he would select a few difficult words from these and ask them to write down their spelling, meaning, and usage. The students had been able to overcome their weaknesses to a great extent by getting extra support in this way."* (HTI [9])

4.17 SMC Support to Students' Performance

The school is a social institution. The locals who are dedicated to education form the School Managing Committee (SMC). SMC is essential to the efficient operation of the school. According to statistics from the Mymensingh division, the School Managing Committee (SMC) is very active and helpful in keeping all school operations running well. This helped students perform better on the NSA test. A head teacher said,

> *"SMC provides necessary support according to our needs," in this regard. Members of SMC provide materials such as fans, furniture, lights, sporting goods, and other necessities to create a happy, safe, and secure learning environment in schools. They also serve as inspiration for parents whose children attend school irregularly and whose parents are unaware of the advantages of education* (HTI[9]).

Another headteacher explored,

> *"Our SMC is very much helpful for school. Sometimes they visit our school, share ideas with us and donate money to build up our boundary wall, celebrate important National Days, buy school dress and writing materials for the poor students and* provide rewards for the meritorious students (HTI[7])".

In this regard an AUEO mentioned,

> *"In most of the schools, SMCs are active, and they provide necessary help to school authorities in conducting 'Home Visit', Mother /Parents Gathering and Yard Meetings. They advise the parents and create awareness among the unaware parents about the importance of education (AUEOI[8])".* He also added, *"SMC of Model school and other schools which is situated near Upazila headquarters are more active, but SMC of hard-to-reach areas are less active (AUEO[I8])".*

The data of Sylhet division shows that the School Management Committee (SMC) provides a little support to the schools which is not sufficient to enhance the quality of teaching-learning. In this regard a headteacher mentioned, *"Our SMC does not provide the necessary support, even some members are irregular to be present in the scheduled meeting (HTI[11])".*

However the SMC members are irregular in the monthly meetings, it is interesting to note that every member is very eager to be elected as an SMC member, it might be a prestigious issue to them. Another interesting thing is that very serious about the SLIP fund. A headteacher mentioned,

> *"There is no special role of SMC members other than enquiring about School level Improvement Plan Found. The land donors of this school were not eligible for members of SMC due to poor educational background. That is why they played their role against forming SMC, though it was formed later with the help of UEO (HTI [13])".*

An AUEO also supported the above opinion. In his words, *"The role of SMC is very weak. They are very busy with financial matters, but do not contribute to increasing the quality of teaching-learning (AUEOI[11])".*

It is also important to note that a respondent headteacher's experience is different from the above opinion. He mentioned,

> *"SMC members provide a lot of support for improving teaching-learning quality. Sometimes they come to visit school activities, share ideas with the teachers and try to create awareness among the parents by attending the parents' meetings (HTI[12])"*

An AUEO also supports this opinion, *"SMC members always contact the teachers and provide necessary help (AUEOI[17])".*

Thus with some exceptions in the Sylhet division, SMC members are not serious enough to play their roles properly

4.18 Parent Teacher Rapport

Parents-teachers rapport is important for students' academic success. Headteachers commented that they asked the parents to join in the meetings, but some of them joined (HTI[6]). Parents reported that teachers asked them to come regularly (FGDP[1]); mother meetings, guardians' meetings, and sometimes on mobile phones, we talked with the teachers (FGDP[2]); teachers informed regarding students' presence at school (FGDP[10]); teachers informed us about NSA exam and even guidebooks (FGDP[3]); we also knock the teachers about our children (FGFP[7]). A mother (FGDP[8]) mentioned, *"We have good communication with the teachers."*

Headteachers called the parents every time, but most of them were busy with their activities, and they didn't have enough time to meet and attend parent or mother meetings (HTI[19]). According to the parents of Sylhet, teachers asked and suggested reading the students at home (FGDP[11]), informed us about their results (FGDP[14]), and requested to send the children to school every day (FGDP[15]). A mother reported, *"Teachers tell us what children can't do (FGD[11])."*

Chapter Five

Findings

5.1 Teaching skills of Mathematics and Bangla teachers

The teaching skills of a teacher are very important for achieving quality education. It is very important to present the lesson properly to achieve the goal of the curriculum as the learners can learn the learning competencies properly. To present the lesson properly the teachers need to learn pedagogical knowledge and as well as the content knowledge and apply the lesson properly. For doing this successfully teachers need to receive professional training and apply the training knowledge properly. Teachers also need sincerity in doing their duties properly. Teachers, teaching ability directly influences the student performance. It is evident from the responses of the AUEOs of Mymensingh and Sylhet divisions that the quality of teaching-learning of the teachers of Mymensingh division was 'Very Good' in Bangla and Mathematics, but the teaching-learning quality of the teachers of Sylhet division was 'Good' the in Bangla and Medium in Mathematics. An AUEO of the Mymensingh division mentioned,

> *"Our teachers are very good at teaching both subjects Bangla and Mathematics because they receive different training regularly. Math Olympiad Training also had an impact on the Math teaching skills of the teachers (AUEOI[9])"*

On the other hand, an AUEO of the Sylhet division mentioned,

> *"The quality of the Bangla teachers is good, and the quality of Mathematics teachers is medium, but the teachers of both subjects are not sincere in teaching-learning (AUEO[13])".*

There is another thing to note that in the Mymensingh division, the performance of Bangla teachers was 'Very Good', and the performance of Mathematics teachers were same, but in the Sylhet division the performance of the Bangla teachers was 'Good' and the quality of Mathematics teachers were 'medium'. That means the performance of Bangla teachers is better than the mathematics teachers. So, a teacher's performance has a great impact on students' performance.

5.2 Use of Teachers Guide

For successful teaching-learning a teacher needs to understand the curriculum, its goal, teaching-learning materials, method and techniques of teaching each session and its assessment procedure. Teacher's Guide is a complete package which contains all of these in one book. Thus, TG is essential for all the teachers like newly recruited, semi-experienced or most experienced teachers. The data of both Mymensingh and Sylhet divisions is also evident that the teachers of both subjects Bangla and Mathematics subjects of both divisions used a teacher's guide regularly during teaching-learning. The scenario is almost the same in both the Mymensingh and Sylhet divisions. The exceptional teachers of both divisions who did not do it regularly also argued that they did not get enough time to take preparation for conducting lessons as they had to conduct more sessions than usual. Some others argued that they felt comfortable teaching his techniques.

In this respect, a teacher stated, “I did not get sufficient time for preparation as I needed to conduct huge lessons daily. Moreover, I feel comfortable in teaching in my idea (ATIM[14])”. Another teacher (AITB[4]) said, *“There is no teachers’ guide in my school”.*

5.3 Bangla Language Skills Teaching

5.3.1 Pre-reading skill

Similar exercises were carried out by Bangla teachers in the divisions of Mymensingh and Sylhet to improve pre-reading abilities in Bangla. For exercises like letter identification, combined letter identification and separation, letter card use, and matching words and phrases with pictures, teachers in both divisions employed comparable strategies. For example, ATIB[6] taught letter identification, conjunct letter identification, and separation teachers in Mymensingh. They employed ATIB[2] word cards to improve vocabulary. By matching words with pictures and sentences with pictures, they presented pictures (ATIB[2]). Similarly, to support pupils' development of reading skills, teachers in Sylhet used word separation from sentences and letter separation from words ATIB[12]. Students were asked to read aloud while cutting and drawing shapes from books and matching words to pictures in ATIB[11]. Additionally, they pushed students to understand letters from images ATIB[12] and ATIB[20], describe the contents of visuals, and use words to form sentences. According to the data, teachers in Mymensingh taught letter recognition (ATIB[5], ATIB[2]) using letter cards and charts, whereas teachers in Sylhet did not. Additionally, they talked about the text's content and accompanying illustrations to help students improve their reading comprehension (ATIB[19]) and used real-world examples to teach (ATIB[15]). It appears from the data that teachers in Mymensingh did not engage in these activities, in contrast to those in Sylhet.

5.3.2 Reading comprehension development strategy

To improve reading comprehension, Bangla instructors in the divisions of Mymensingh and Sylhet employ a variety of techniques. These include coming up with fresh word combinations for phrases, working in groups or pairs, having students respond to questions based on passages they have read, and giving them chances to express themselves verbally. Like in Mymensingh, educators require students to construct sentences with brand-new vocabulary (AITB[02]). Work in groups and on your own while you are teaching (AITB[05]). Students attempt to respond based on a provided paragraph (ATIB[02], ATIB[06]). Teachers in Sylhet used a range of techniques to improve students' reading comprehension. To gauge the kids' comprehension, they would give them instructions on reading, listening, and answering questions. Additionally, reading with peers and in groups was promoted (ATIB[11]). During reading, a teacher reportedly offered brief oral questions that let the kids explain what they understood in their terms. Additionally, graded written responses, asked students to in blanks, and assisted them in creating sentences with vocabulary (ATIB[15)].

Although teachers in Mymensingh and Sylhet used a variety of tactics to improve their students’ reading comprehension, there were some obvious distinctions between their methods. Teachers at Mymensingh encouraged their students to break up their sentences into paragraphs, which they then used to create questions (ATIB[02]). Additionally, they concentrated on enhancing reading

comprehension skills related to pronunciation, compound word and joint letter breakdown, punctuation usage, and new word recognition with connecting letters (ATIB[02]). They also gave access to additional reading materials, promoted the creation of questions, and conducted examinations regularly (ATIB[02], ATIB[06], ATIB[07]). To improve comprehension even more, some educators used question-and-answer exercises and predictive techniques. In addition, offers additional reading resources (ATIB[07]).

The Sylhet statistics did not specifically highlight these activities. Teachers in Sylhet, on the other hand, were largely concerned with assisting their weaker students to improve.

5.3.3 Vocabulary and grammar development strategy

Bangla teachers of Mymensingh and Sylhet divisions equally teach vocabulary words to develop Bangla vocabulary. In this case, in the words of a teacher in Mymensingh, learning the words from the book and making rhymes/poems/songs with the first letters of the words to remember them and practicing them over and over to remember them is ATIB[4]. On the other hand, in the words of a Sylhet teacher,

> *"I used to teach the meaning of words repeatedly. I used to explain all the words in the lesson. I used to tell them by pronouncing difficult words repeatedly. I used to mark the letters and teach them to use them (*ATIB[12]*)."*

However, in this case, the teachers of Mymensingh do some special activities which were not found in the words of the teachers of Sylhet. For example, they use word nets, use word ladders, practice repetition and organize competitions among students ATIB[2]. Use of synonyms, different uses of the same word, and use of different words with names are practiced ATIB[6], ATIB[3]. On the other hand, teachers in Sylhet use ATIB[12] repeated word meaning cards and ATIB[11] word cards.

Bangla teachers in both Mymensingh and Sylhet divisions utilize various strategies to enhance reading comprehension. These include creating sentences with new words, working in pairs/groups), students answer questions based on paragraphs they read, and create opportunities to deliver ideas in their language. Mymensingh teachers make students create sentences using new words (ATIB[02]). Engage individual and group work during teaching (ATIB[05]). Students try to/ answer from a given paragraph (ATIB[02], ATIB[02], ATIB[06]).

Bangla teachers in Mymensingh and Sylhet divisions use various strategies to enhance reading comprehension. In Mymensingh, teachers focus on learning words from books and creating rhymes/poems/songs with the first letters of the words to remember them. In Sylhet, teachers use repeated word meaning cards and word nets to teach the meaning of words. They also use strategies to enhance reading comprehension, such as creating sentences with new words, working in pairs/groups, answering questions based on paragraphs, and creating opportunities to deliver ideas in their language. In Sylhet, teachers encourage students to read in groups and with peers, ask short oral questions, check written answers, and guide them in forming sentences using vocabulary. However, there are notable differences in their approaches. In Mymensingh, teachers encourage students to create paragraphs from their sentences and use them to formulate

questions, while in Sylhet, they focus on improving weaker students by encouraging them to reread passages.

5.3.4 Bangla teaching assessment techniques

Bangla teachers of both Mymensingh and Sylhet divisions typically start their classes by exchanging greetings and reviewing the previous lesson. They then take out the Bangla textbook and review the previous day's lesson. If students were unable to do so, the teachers gave feedback to them. FGDS[2]. According to Sylhet Students' Language- "The teacher would first call out the students' names to check their attendance and then inquire about their well-being. Sometimes he asks them to read. After the reading, he would ask various questions and then sometimes assigned them to write (FGDS[17])." After that, He engaged them in reading (FGDS4)**.** According to the students of Mymensingh, "The teacher would read the passage first and then allow the students to read it. The teacher would read the day's lesson himself and then allow us to read it. After we finished reading, he would ask us questions about the lesson (FGD[6])." Besides according to the view of Sylhet students, "Madam would come to class, review the previous lesson, and explain the day's lesson. She would first read the lesson herself and then ask us to read along with her. Finally, she would ask us to read the lesson individually (FGD[13])." The teacher would give exercises to the students to write joint letters in their notebooks. He would assess them by giving them exercises related to the lesson's vocabulary and meaning. (FGDS[8]). In some cases, teachers would base their teaching on vocabulary, questions and answers, vocabulary knowledge, and comprehension. For example, students stated, "The teacher teaches us vocabulary, helps us learn questions, teaches us reading, teaches us correct spelling, teaches us the main idea, corrects our mistakes when we write, and helps us fill out forms." (FGDS[19]). Both divisions had the same information regarding homework. Teachers would assign homework (FGDS[11]) and check homework if it was assigned (FGDS[9]).

No significant differences were observed in the teaching methods of teachers in Mymensingh and Sylhet divisions about the topics mentioned above. However, teachers in the Mymensingh Division emphasized improving handwriting (FGDS[3]). Sometimes, teachers would display materials related to the lesson, break down the joint letters of the word and write them on the board, and read and write the lesson aloud (FGDS[8]). "Often, they would ask us to create questions from the reading. If no one could, they would explain it at the end of class (FGDS[4]). "In addition, teachers conducted Bangla language teaching activities by teaching reading, asking questions, and providing support in pairs or groups, especially in the context of the NSA. (FGDS[9])

Teachers in the Sylhet Division were observed to tend to make students memorize Bangla lessons. For example, Sylhet students reported in focus group discussions *"The teacher gives exercises, teaches from the guide (Fulkoli), and makes them memorize (FGD[11])* "In the language of some students in the Sylhet Division, their teacher *"The teacher used to come from far away and did not teach well. He wrote less."(FGDS[18])* In addition, in some cases, teachers would present lessons without preparation and did not show much enthusiasm. For example, students reported *"The teacher used to come to class and ask what we had studied. If no one could answer, he would scold them (FGDS[20])."*

5.4 Mathematical knowledge for teaching

5.4.1 Teaching Number and Counting

In this study, it is found that teachers of both divisions are asked to copy the teacher's solution and solve the problems on their notebooks and sometimes on the board. Data also shows that teachers of the Mymensingh division make the lessons on numbers and counting more activity-based and joyful in comparison with the teaching strategies of the Sylhet division. A teacher mentioned ($ATIM^{02}$),

"I develop students' number and counting concepts through math Olympiad techniques such as colored number cards, ten's machine, hungry crocodile, line making and line breaking etc."

It is also important for the teachers to know the curriculum to ensure appropriate teaching strategies in teaching numbers and counting. But in this study. it is also found that some teachers of both divisions have no clear concept of curriculum. A teacher ($ATIM^{02}$) from Mymensingh division and $ATIM^{11}$ noted,

"We *use concrete aids like sticks, seeds, marbles and semi-concrete aids like number card, and charts in teaching numbers and counting."*

However, according to the grade 3 curriculum, there is no scope to use concrete aids in teaching numbers and counting.

5.4.2 Teaching Measurement

It is found that most of the interviewed teachers of both divisions use different kinds of measurement instruments like scales, tape, bottles, balance scales, batkhara, and model watches to develop students' concepts of length, weight, volume and time measurement. They help the students to gain practical knowledge by measuring things with different kinds of instruments. They use measuring units' charts to make their understanding of the relation of different units of measurement. A teacher of Mymensingh division ($ATIM^{2}$) mentioned,

> "*I use different kinds of measuring instruments to make their understanding about the measurement of length, weight, volume and time. I also use units of length, weight, volume and time conversion charts in teaching measurement."*

A teacher of Sylhet division ($ATIM^{12}$) said,

> "*I show different shapes, show angle room to gain their knowledge about the angle, show books to gain their knowledge about surface, Show and draw a triangle to gain their knowledge about the triangle, show round shape things to gain their knowledge about a circle in my classes."*

It is also proved that some of the teachers in the Sylhet division have no clear knowledge of the curriculum. In response to a question about teaching techniques of measurement a teacher ($ATIM^{12}$) of Sylhet division said,

> "*I show different shapes, show angle room to gain their knowledge about the angle, show books to gain their knowledge about surface, Show and draw a triangle to gain their knowledge about the triangle, show round shape things to gain their knowledge about the circle in my classes."*

In response to the question of measurement teaching learning teacher's answer is related to geometry.

5.4.3 Teaching Geometry

Teachers of Mymensingh division used different Origami, and tangram to teach geometrical shapes. Teachers in both divisions (Mymensingh and Sylhet) use different things inside the classroom, rulers, campus, etc to teach geometrical shapes. They also use students' life-like things such as books, khata, tables, chairs, plates, glass and other things in their house and different kinds of handmade shapes to develop their knowledge about geometrical shapes and figures like triangles, rectangles and circles. Teachers of both divisions also drew the figures on the board and asked the students to draw on the board while the teachers of the Mymensingh division made their classes more activity-based through group work, pair work and individual work than the Sylhet division.

A teacher of Mymensingh division ($ATIM^3$) mentioned,

> "*I let the students make different shapes by cutting paper and by using blocks, I let them change the shapes with logic in the classroom. I also let the students do group work and individual work in my geometry class. I identify backward students and provide extra support for them."*

A teacher of Sylhet division ($ATIM^{20}$) said,

> *"I provide the necessary support to students for gaining knowledge about geometrical shapes through handmade aids. I draw the shapes of triangles, rectangles and circles on the board and help the students to draw the shapes on their khata."*

5.4.4 Math Assessment

Most of the interviewed teachers of the Mymensingh division described that they involved parents in the assessment process to ensure their students' learning. teachers assess students learning during and after mathematics lessons through oral, written and observation. They assess students' mathematics competencies through weekly and monthly exams. In this regard, a teacher ($ATIM^2$) said,

> "*I conduct weekly and monthly exams and inform the status of the performance of the students to the parents/guardians. I also suggest the parents take some initiatives in respect of remedial measures for some students."*

Teachers of the Mymensingh division also mentioned that they assign homework and give necessary feedback through checking their work, while teachers of the Sylhet division didn't mention such type of initiative.

5.5 Developing Domain-Based Questions

Teachers of Mymensingh division can prepare domain-based questions, however, by the want of regular practice they are not skilled enough in doing this. Similarly, it is revealed from the data of Sylhet division that some teachers can prepare domain-based questions, while some others opined that they are not capable of doing that. However, teachers from both Mymensingh and Sylhet divisions usually prepared questions from the Knowledge, Understanding and Application sub-domains of the Cognitive domain. In some cases, teachers showed their confidence in preparing domain-based questions and practicing their skills, however, some of them could not

say properly the name of three domains or their subdomains. In this respect the comment of a headteacher of Sylhet division is mentionable,

"Now the question is prepared under the cluster basis. That is why all the teachers do not get the opportunities of preparing questions (HTI[11])".

AUEO (AUEO[14]) also blamed the 'Cluster Based Question Preparation System' for less practice of domain-based questions by the teachers.

Thus, the ability to prepare domain-based questions is almost the same and the teachers of both divisions are not capable enough in preparing domain-based questions, and in most cases, neither get the opportunities to use and develop their skills.

5.6 Challenges that the Teachers Face During Teaching Learning Activities

The teachers of both Mymensingh and Sylhet divisions had to face a lot of problems during teaching-learning in the classroom. In both divisions, there were many backward learners and the common problem that the teachers faced was that their learners were not competent readers and could not read from their textbooks without the help of others. Some of them could not recognize the letters, joint letters Kaar sign etc. A Bangla subject teacher of Mymensingh Division mentioned,

"Some learners cannot read fluently or with the help of others. They cannot read the joint letters or read the difficult words (HTI[12])".

Similarly, a headteacher of Sylhet division mentioned,

"Many children cannot read without the help of others. Some learners do not know all the letters or the use of the Kaar sign. Thus, they are unable to read. Moreover, they are irregular in the school (HTI[15])".

The ability to strike does not appear to be the same as a higher level of mathematical understanding but rather a more complex level of performance. The learners of both divisions were commonly weaker in mathematics, and they did not have the required basic knowledge about, counting numbers, place values of numbers and four basic Mathematical rules like addition, substructions, multifurcations and divisions. The learner's basic knowledge of mathematics was poor. Some learners could not understand the place value of numbers or solve problems related to multiplication or division (ATIM[14], HTI[11]).

Another common problem was the irregular attendance of the learners, which affected their teaching-learning. The biggest challenge that the teachers had to face was the irregular attendance of the learners. When the teachers started a story, poetry or practice a new rule of mathematics, some learners were absent before completing it. As a result, a learning gap was created, and it was never possible to fill up the gaps later. In this situation, I sent the teachers for a home visit. Then the learners came to school two or three days later and again did the same behaviour (HTI[9], HTI[15]*).*

A mathematics teacher of Mymensingh division opined,

> *"Some children are from poor families, and they do not get help from their home in their studies. They are weaker students and cannot make responses in the classroom. It is a very difficult task for the teachers to make them understand a topic (ATIM[18])".*

Similarly, the headteacher of Sylhet division mentioned,

"Most of our guardians are not aware enough to guide and support their children properly. They do not ensure the presence of their children at school regularly. They are also unable to provide the necessary support to their children at home in their studies (HTI[12])"

5.7 Feedback activity/Steps taken to ensure learning

Teachers, Headteachers and other stakeholders have taken various initiatives to fill the gaps of the underperforming students. This comparative analysis of data from the Mymensingh and Sylhet divisions reveals both commonalities and variations in the experiences of taking necessary steps for underperforming students.

A concerning similarity emerged across both divisions- Headteachers and assistant teachers of both Mymensingh and Sylhet divisions emphasized forming groups of strong and underperforming students in the classes (HTI[3], ATIB[3], ATIB[7], ATIM[5], HTI[15], ATIM[11]). Similarly, AUEOs are also advised to form groups (AUEO[11], AUEO[5]).

Students of the Mymensingh division were divided into strong and underperforming groups based on a baseline assessment. On the contrary, teachers of Sylhet Division divided students into groups. But they didn't mention the baseline or any kind of activity.

5.8 Student's learning and learning loss during COVID-19

A concerning similarity emerged across both divisions – a substantial learning loss among students in various subjects (HTI[1], HTI[4], ATIB[11], ATIM[15]). Subjects like Bangla, Math, and Science were identified as particularly challenging, with students forgetting basic concepts, struggling with reading fluency, and facing difficulties with fundamental math operations (HTI[2], HTI[3], HTI[5], HTI[6], ATIB[2], ATIB[3], ATIB[6], ATBI[7], ATIM[2], ATIM[3]). This aligns with findings from other countries highlighting the negative impact of school closures on foundational skills, particularly in language and mathematics

The data suggests a possible difference in the severity of learning loss between the two divisions. Mymensingh data included reports of minimal or no learning loss in some schools (HTI[10]). In contrast, Sylhet data suggests a more persistent and widespread learning gap (HTI[11], HTI[12], AUEOI[15]). These variations could be due to several factors, including pre-existing learning disparities, and the effectiveness of remote learning strategies employed during school closures.

Both divisions identified similar factors contributing to learning loss. These included the disruption of regular classroom learning (ATIB[12]), lack of access to support at home for disadvantaged students (HTI[12]), and potential issues with the continuity of learning during closures (AUEOI[3]). Limited access to technology and the effectiveness of remote learning approaches, particularly online classes impacted students learning during the pandemic.

5.9 Remedial plan to address learning loss

To address learning loss upon school reopening, both divisions implemented remedial plans. These plans focused on foundational skills, mixed-ability grouping, and strategies to increase student engagement (HTI[3], HTI[11], HTI[19], ATIM[4]). Mymensingh data suggests a potentially more comprehensive approach, with targeted interventions like extra classes, individual support, and

the use of an 'Accelerated Learning Plan' (HTI[1], HTI[3], HTI[5], HTI[6], HTI[7], AUEO[I2]). The perceived effectiveness of these interventions seemed to be higher in Mymensingh, with reports of improved student performance (HTI[3], HTI[4], HTI[6], ATIM[6]). While employing similar strategies in some areas, Sylhet acknowledged a more persistent learning gap (HTI[11], HTI[12], AUEOI[15]). A crucial difference emerged regarding student promotion practices. Sylhet data suggests students were promoted despite learning gaps, potentially creating a foundation for future challenges (HTI[11], HTI[12]).

The data suggests that Mymensingh may have implemented a more comprehensive remedial plan, potentially leading to greater perceived progress.

5.10 Instructions/support for NSA

5.10.1 Similarities between the divisions

The Department of Primary Education (DPE) coordinated the National Student Assessment (NSA), disseminating information on eligibility criteria, selection process, and exam details. DPE provided sample questions and facilitated discussions during an orientation program. Assistant UEOs received training, while Head Teachers and Assistant Teachers received orientations. Schools used a multi-pronged approach, including practice sessions, regular model tests, reading and mathematical practice, and textbooks. UEO officials urged students to be present on exam day.

5.10.2 Differences between the divisions

- Mymensingh provided NSA-related information in a more structured way, while information on Sylhet is unclear. Information on the extent of teacher involvement in student preparation is limited. *"I informed that the test would be held just a week before the NSA test* (HTI[18], HTI[14])." Moreover, Mymensingh placed a stronger emphasis on encouraging student participation and setting up model tests. According to FGDS[9], *"Within two months, we attended twelve model tests."*
- Regarding model tests, taking Model Tests in Mymensingh was more active than Sylhet for preparing students. Besides that, students of Mymensingh practiced following the supplied guidebooks on NSA more than the students of the Sylhet division.
- Some teachers of Sylhet expressed a lack of clear understanding about the NSA process. ATIM[12] said, *"I heard there will be an NSA exam, but I have no idea how it will take place." In respect of parental involvement,* Parents were less involved in Sylhet.
- NSA-related information dissemination did happen properly in Sylhet. *"I heard there will be an NSA exam only before a week of the examination (ATIM[18])."*

5.11 NSA conducting process

Within the divisions of Mymensingh and Sylhet, the NSA followed a uniform operating procedure. A small sample of twenty-five students from each class in grades 3 and 5 took the exam, which was administered by external examiners who were unknown to the students. The test itself concentrated on fundamental Bangla and mathematics skills to guarantee uniformity across the two divisions. Both divisions' students admitted that they didn't know the test-takers.

5.12 Socio-Economic Situation and Parental support

The study compared the education of students in the Mymensingh and Sylhet divisions, revealing similarities in socio-economic background, occupations, and absenteeism patterns. Parents in both areas shared similar occupations, such as fisherman, farmer, and day laborer. However, absenteeism varied due to illness, parental apathy, farm work, weather events, and other factors. The use of tutors, parents, or siblings for reading assistance was also common. The study also identified differences in family migration patterns, with Mymensingh experiencing internal migration for work within Bangladesh and Sylhet experiencing more outward migration abroad.

5.13 SMC Support to Students' Performance

School is a social institution. The School Managing Committee (SMC) is formed with those local people who are devoted to education. SMC plays a significant role in running the school smoothly. It is explored from the data that in the Mymensingh division SMC were more active and they provided strong support to the schools in performing all the activities. They were regular in attending the scheduled meetings, provided financial support for buying different teach-learning materials and awarded money to poor and talented students. They also created awareness about the importance of education among the poor and illiterate guardians. An AUEO opined,

> "*SMC members play an active role in mitigating different problems for better schooling. They also cooperate physically and donate money to celebrate different occasions. Sometimes they support and inspire the guardians for promoting regular attendance of their children (AUEOI[3])".*

Thus, the active and sincere role of SMC of the schools of Mymensingh division has a great influence on increasing the quality of teaching learning and better student achievements in the NSA2022.

On the other hand, with some exceptions, the SMC of the Sylhet division are not as active and sincere as that of the Mymensingh division. Rather they are very much interested in financial matters like the SLIP fund. In this regard, an AUEO of the Sylhet division opined,

> *"The role of some SMC members of my cluster is very fragile. They are more concerned about financial allocation and expenditure rather than the quality of learning (AUEOI[11])"*

SMC support in the Mymensingh division played a positive role in better student- performance in the NSA examination, on the other hand, the weaker role of SMC had an important role in the poor performance of the students of Sylhet division in the NSA examination.

5.14 Parent teachers' rapport

The study compares parent-teacher communication in Mymensingh and Sylhet divisions. Both divisions initiate communication, involving parents in discussions about student attendance, exam details, and performance. Both use multiple communication channels, including meetings, phone calls, and informal interactions. Parents acknowledge these efforts. However, Mymensingh has a higher level of parental engagement, with parents attending meetings and actively seeking information about their children's progress. Communication frequency is more frequent in Mymensingh, with parents discussing discussions about student progress and meetings. Sylhet's communication is more focused on basic information sharing. Parents in Mymensingh are proactive, initiating contact with teachers themselves, while Sylhet's parents are more reactive. Overall, Mymensingh appears to have a more established and active parent-teacher communication system.

5.15 Respondents' opinion about better or Worse Performance

Both Mymensingh and Sylhet acknowledge the impact of Corona on education but differ in their approaches. Mymensingh emphasizes better exam preparation, model tests, and NSA guidelines, while Sylhet focuses on external factors like floods and economic disparities. Mymensingh also emphasizes parents' involvement in homework completion and attendance, while Sylhet focuses on parental illiteracy, lack of support, and proneness to going abroad. Both divisions highlight the need for active teacher involvement and extra classes.

5.16 Major Findings

The findings revolve around key areas such as teaching strategies, parental involvement, remedial plans, online learning platforms, community engagement, communication between parents and teachers, socio-economic background, and student progress over time. By analyzing these factors, the study aims to unravel the underlying dynamics contributing to the contrasting academic achievements in the two divisions.

- **Teaching-Learning Quality:** Bangla and Mathematics teachers in both divisions have received subject-based training and long-term professional training like C-in-Ed or DPEd, which has positively impacted their teaching skills. According to the data, Mymensingh has emphasized more than Sylhet in this area.
- **Use of Teacher's Guide:** Despite the availability of training, many teachers do not regularly follow the Teachers' Guide (TG) due to time constraints, workload as well as lack of TG in schools.
- **Teacher Preparation:** Teachers in both divisions arrived unprepared, focusing on rote learning, showing less engagement with students were reported.
- **Pre-Reading Skills Development:** Bangla teachers in Mymensingh and Sylhet, employed various techniques and activities to enhance pre-reading skills. Activities like using letter cards, word cards, picture matching, sentence construction, joined letter identification etc. are commonly practiced.
- **Reading Comprehension Strategies:** Both divisions' teachers focused nearly similar strategies to enhance reading comprehension like proper punctuation, word meaning, correct

spelling, creating sentences with new words, group work, answering questions based on paragraphs, and expressing ideas in their language. Both divisions are struggling with recognizing letters, joint letters, 'Kaar' signs.

- **Differences in Approach:** Mymensingh teachers emphasized additional reading comprehension strategies like creating paragraphs, improving pronunciation, breakdown compound word, punctuation usage, and new word recognition with joining letters, which were not explicitly mentioned in the Sylhet data.
- **Use of Teaching Aids:** Teachers in both divisions frequently use teaching aids such as charts, word grids, games, sticks, seeds, marbles, number charts, number cards etc. to develop students' vocabulary and language skills.
- **Mathematics Teaching Strategies:** Students have a lack of clear understanding of basic mathematical operations and concepts, affecting their overall performance. However, Mymensingh teachers made number and counting lessons more activity-based and joyful compared to Sylhet.
- **Use of Measurement Instruments:** Teachers in both divisions used various measurement instruments such as scales, tape, bottles, balance scales, and watches to develop students' understanding of length, weight, volume, and time measurement.
- **Teaching Geometrical Shapes:** In Mymensingh and Sylhet, teachers used different activities like drawing geometric shapes on the board, using origami and tangram, creating shapes from household items to teach geometrical shapes. Mymensingh teachers emphasized hands-on activities like using origami or tangram and group work, while Sylhet teachers relied more on traditional approaches like drawing on the board.
- **Classroom Assessment Strategies:** Teachers use oral (question-answer and readings), written, and observational methods to assess students. Teachers of Mymensingh gives emphasis on monthly exams.
- **Feedback and Remedial Measures:** In Mymensingh, Headteachers and teachers coordinate and provide extra time and talk with parents to support lagging students while Sylhet faces a lack of support from parents.
- **Involvement of Parents in Assessment:** Most teachers in Mymensingh involved parents in the assessment process, while Sylhet fought to get support from parents.
- **Domain-Based Question Preparation:** Teachers in Mymensingh show competence in preparing domain-based questions, focusing on knowledge, understanding, and application, often converting them into knowledge-type questions due to insufficient training and practice, while in Sylhet, some teachers are capable of preparing domain-based questions, regular practice and application remain inconsistent.
- **Intensive Support to Students:** Teachers and headteachers of Mymensingh have taken initiatives to address learning gaps by arranging extra classes, mixed grouping, and involving parents, while Sylhet employs para-teachers to recover from learning loss due to COVID-19 and the recent devastating flood.
- **Irregular Attendance:** Both divisions struggle to ensure regular attendance. In Mymensingh, poverty, family affairs, seedling and harvesting, feeding to father at the farm, natural calamities, fishing with father, and visiting relatives' houses were the main reasons for irregular attendance, while Sylhet added some more reasons like joining social events, being unsettled and non-resident students, being prone to go abroad, reluctance to education, etc.

- **COVID-19 effect**: All teachers and others claimed a significant learning loss due to the COVID pandemic, especially in Reading and understanding Mathematics. Limited online class participation, lack of devices, promotion to higher grades without ensuring basic skills, lack of regular classes, and internet connectivity are mainly responsible for this learning loss. Both divisions arranged online classes using Zoom or Google Meet, communicating through mobile phones, WhatsApp, messengers, and distributing worksheets. Mymensingh recovers with the help of parents and SMC, while Sylhet yet struggles to bridge the learning gaps.
- **NSA Information Dissemination:** Both divisions shared NSA-related information in a cascade way. However, Mymensingh provides NSA-related information in a more structured manner compared to the unclear information in Sylhet. Even some teachers of Sylhet did not have a clear understanding of NSA.
- **Community Awareness for the NSA:** Parents and SMCs of Mymensingh were actively involved in NSA process for preparing students, even parents helped to complete homework compared to Sylhet.
- **Flood in Sylhet:** A devastating flood occurred in Sylhet just a few months before, which impacted students' learning and preparation for NSA.
- **Students Preparation for NSA:** Both divisions actively took model tests, developed competency-based questions, and purchased guidebooks. However, Mymensingh displays more active engagement in taking model tests, and students practice following NSA guidebooks and arrange extra classes for selected students more than in Sylhet.
- **Students Selection for NSA:** Both Mymensingh and Sylhet follow a similar structure for NSA selection and exam processes involving external examiners.
- **Socio-economic background:** Socio-economic status is nearly the same in both divisions. There is a huge gap between rich and poor, prone to go abroad, unsettled and non-resident parents in Sylhet, whereas Mymensingh struggles with the parents who went out to other districts in search of work.
- **Effective Parent-Teacher Communication:** Mymensingh demonstrates a more established and active parent-teacher communication system compared to Sylhet, acknowledging the efforts of teachers to communicate effectively.
- **Regular Assessment and Feedback:** Teachers in Mymensingh maintained regular assessments and provided feedback based on NSA sample questions, ensuring that students were well prepared for selected students.
- **Inadequate Monitoring:** There was inadequate monitoring and support from educational officials in Sylhet due to insufficient officers.

Data revealed same results in some cases for both divisions such as teachers training, preparation for classes, use of TG, use of teaching aids, teaching-learning strategies and techniques used in classes. In regarding NSA conduction process both divisions followed the same procedure. For academic development of the students teachers of Mymensingh Division used different strategies in some area like reading comprehension skills, teaching geometric sheps, parental engagement in learning and assessment, taking Extra classes, engaging mixed group activity and taking monthly tests. Sylhet division showed below performances in this areas. Regarding NSA structured information dissemination, parental active involvement, taking model test, providing feedback and parent-teachers effective communication were revealed from data in Mymmensindh divisions. On the contrary, scattered instruction, teachers' ambiguity about NSA process, lack of monitoring and parental involvement were found in Sylhet Divisions.

Chapter Six

Discussion

The National Student Assessment 2022 report revealed concerning trends where Mymensingh and Dhaka consistently exceeded the national average in Bangla and mathematics for grades 3 and 5, while the Sylhet division lagged behind all others in these subjects. This study intended to identify factors influencing student achievement and explore the underlying causes behind their performance variations.

Orient the stakeholders about the NSA, is a crucial issue for the successful administration of this exam countrywide. It was found that there was a more comprehensive orientation process for all stakeholders (Upazila Officers, Headteachers, Assistant Teachers, and Students) in Mymensingh. This included providing sample questions, conducting training sessions, encouraging student preparation through model tests and extra classes and focusing on core subjects (Bangla and Mathematics). Whereas the orientation process in Sylhet appears less comprehensive. While Upazila Officers received training, the information cascaded down to Headteachers and Assistant Teachers with less emphasis on specific strategies or student preparation.

There is no denial that many contextual or background-related factors are associated with student learning (NSA, 2002). Different types of factors are involved in the high and low performance of students in NSA. Mymensingh schools appear to have adopted effective strategies to address student learning needs and prepare them for the NSA. Schools from Mymensingh reported focusing on NSA guidelines, student attendance, model tests, and home support from guardians. This suggests a coordinated effort to improve student performance. On the other hand, in Sylhet, factors attributed to low performance included learning gaps due to COVID-19 and floods, irregular student attendance, socio-economic disadvantages, lack of parental support, and student mobility due to temporary work in the region.

Students' attendance, socio-economic situation and parents' engagement in learning influence the students' learning. In NSA (2022) it is found that among various factors related to students' background and socio-economic status, parental background and the availability of resources at home showed significant positive associations with student performance. Besides that regular attendance is also a major factor that influences the performance of the students. Oghuvbu (2006) stated that attendance dilemma could also result into poor academic achievements, loss of friends and partners, disruption in class when absentees return to school, difficulty in keeping accurate records, reduced ability to meet instructional targets and damaged school reputations. Moreover, the importance of parent engagement in children's learning is widely acknowledged (Goodall, 2017). In the study, it is observed that lower attendance in Sylhet compared to

Mymensingh suggests a potential disruption in learning continuity. The respondents shared some factors like illness, family events, seasonal work, and parental apathy contribute to absenteeism. Students also mentioned household chores and caring for siblings as reasons for missing school. The need for children to contribute to household chores in Sylhet might limit dedicated study time. Moreover, the parents of Mymensingh exhibited a greater degree of involvement in their children's education compared to Sylhet. The study found that socio-economic disparities and limited parental support contribute to lower student performance in Sylhet compared to Mymensingh.

Teacher training and motivation play a positive role in students' performances. Gamoran (2006) observed that teacher training led to better content delivery in classroom which consequently enhances student achievement. Though the teachers of Mymensingh and Sylhet divisions received subject-based training and long-term professional training, the education supervisors raised concerns about teachers not fully utilizing their training or consistently following the Teachers' Guides. Especially the education officers in Sylhet suggested that school closures due to COVID might have impacted teachers' skills and the need for refresher training. These scenarios suggested a potential gap between teacher training and its practical application in the classroom.

As a classroom teacher, it is required to follow the teaching-learning strategies to develop the student's language skills. It is believed that the effective use of learning strategies is an important factor for successful language learning, and that students may need a range of strategies to regulate their own learning (Zimmerman & Martinez-Pons, 1990). Teachers are asked to follow the teaching-learning approaches mentioned in the teacher's guide. In regarding this Howe (1991) mentioned in his article that the availability and effectiveness of a TG can contribute greatly to achieving a good standard of teaching. For developing the student's pre-reading skills, the classroom teachers in both divisions utilize various activities to develop letter recognition, vocabulary, and picture association. These include letter cards, charts, word cards, matching exercises, and image recognition tasks. The variety of activities suggests a focus on engaging students in pre-reading skills development. To develop the student's comprehension skills, teachers use a combination of individual and group reading, comprehension questions, sentence construction, and pronunciation practice in both divisions. However, some class teachers in the Mymensingh division encourage students to ask their own questions and use additional reading materials. This denoted that Mymensingh might have a slight edge in encouraging independent learning through student-generated questions and additional reading suggestions.

Teaching language grammar is important which eventually helps the students to use the language correctly in speaking and writing communication. Written communication and any other form of indirect communication thus depend on correct use of grammar or syntax, as well as of vocabulary and spelling, in order to ensure that messages are immediately comprehensible to the reader, and not meaningless or ambiguous (Rossiter, 2021). In both divisions, teachers use

exercises like word formation, sentence building, conjunct letter separation, and identifying parts of speech. They also differentiate instruction based on student familiarity with concepts. Besides, to develop the student's vocabulary, teachers in Mymensingh employed word ladders, grids, competitions, synonyms, rhymes, poems, songs, word cards, jumbles, and visual aids. They also utilize alphabetical lists at the back of textbooks, whereas Sylhet focuses on repeated pronunciation and explaining word meanings. These interventions varied the student's performances in both divisions.

To manage classroom activities, teachers typically start classes by greeting students, reviewing previous lessons, checking homework, emphasising handwriting, and following a structured sequence of reading, explanation, questioning, writing, and homework assignments. Explaining teachers teaching strategy Weinstein & Mayer (1983) stated in their article that good teaching includes teaching students how to learn, remember, think, and motivate themselves. Teachers enter the classroom with two distinctly different kinds of goals which are teaching students "what" to learn and teaching students "how" to learn. In both divisions, teachers use a combination of questioning, vocabulary instruction, and comprehension checks, while some teachers in the Sylhet division emphasize memorization. It is also observed that Mymensingh appears to have a more established routine for reviewing previous lessons and checking homework. On the contrary, Sylhet has instances of over-reliance on memorization, which could be addressed.

Like teaching Bangla, the teachers are also expected to follow the teaching-learning activities mentioned in the teacher's guide in teaching Mathematics. To explain the significance of using teachers guide Mills et al. (1986) disclosed that a splendid example of a successful combination of detailed lesson plans and more general guidance is to be found in the TG. There are specific techniques to teach numbers and counting, basic operations, measurement and geometry, if the teachers follow the appropriate approaches to teach these topics, it is believed that the students can achieve the targeted mathematical competencies easily. Explaining the importance of using different techniques in teaching mathematical concepts Kaplan (2008) stated that it establishes connections between different mathematical ideas such as numbers, decimals, and measurement leading to the development of mathematical skills for the formation of more advanced mathematical concepts. In the study, it is found that the teachers of both divisions used materials (sticks, seeds) and semi-concrete aids (number charts) for hands-on learning in teaching counting and numbers, but Sylhet might have a slight edge in explaining addition concepts before a written practice. For teaching measurement, both divisions utilized various measuring instruments (scales, tapes) for practical experience. The teachers also used charts to teach relationships between different measurement units. In addition, to teaching geometry, the teachers in both divisions employed manipulatives like origami, tangrams, and everyday objects for hands-on learning; the class teachers also drew shapes on the board and asked students to copy them. It is noted that the teachers of Mymensingh employed the Math Olympiad techniques

for advanced learners. Overall, it is found that both divisions prioritize hands-on learning with manipulatives and practical activities.

Besides teaching-learning activities, applying appropriate assessment techniques and tools is important to track the progress and identify the gaps in students' performances in Mathematics. Explaining the importance of assessment Veldhuis & Heuvel-Panhuizen (2014) mentioned in a article that Based on this Classroom assessment information teachers can adapt their teaching to their students' needs and create an ideal learning environment for them in their classroom. In both divisions, the teachers used a combination of oral, written, and observational assessments during and after lessons, and they also conducted weekly/monthly exams. Developing competency and domain-based questions is an important skill for teachers, and the teachers are expected to apply the domain-based test items during classroom practice and in the summative assessment. In the NSA, the students appeared the questions which are competency and domain based. In the study, it was found that the teachers in both divisions generally focused on the 'Knowledge, Understanding and Application" sub-domains of the cognitive domain in assessments. However, it is reported that some teachers in both divisions lacked the skill or practice to create questions across all domains. This issue denoted a need for professional development opportunities in both divisions to enhance teachers' competency in creating domain-based assessment items.

Teacher's continuous support and feedback are necessary to address the learning gaps and minimize the learning loss of students. Studies have suggested that effective feedback can increase students' academic self-efficacy, promote self-regulation among learners, and support an intrinsic motivation to learn (Hammer et al., 2012). To support the slow learners, the teachers identified some strategies including identifying slow learners, forming groups, providing extra time and giving feedback. In the study, it was found that the teachers in both divisions utilized baseline surveys to identify slow learners. The teachers also formed mixed-ability groups with strong and weak students for collaborative learning. The teachers also reported that they offered extra classes before and after school hours for lagging students. Moreover, the teachers dedicated extra time during regular classes for individual or small-group support. Overall, it is seen that the teachers in both divisions utilized a multi-pronged approach to support lagging students, including identification, group formation, extra time, feedback, and remedial measures. Mymensingh focused on peer tutoring through advanced learner teams, while Sylhet emphasized mixed-ability collaborative learning groups. In addition, direct feedback and remedial measures are implemented in both divisions, highlighting a focus on addressing learning gaps.

School closures due to COVID-19 significantly impacted student learning across Bangladesh. The government of Bangladesh decided to close the educational institutions as part of preventive measures against the spread of the COVID-19 pandemic (Dutta & Smita, 2020). The closure of educational institutions has negative consequences on students' academic study, including learning interruptions, and disruption to assessment, and the impact is more severe on students

from disadvantaged backgrounds (UNESCO, 2020a). The closure of schools and other institutions of learning has impacted 94% of the world's student population.(Zhdanov et al., 2022), this scenario is also common in both Mymensingh and Sylhet. Subjects like Bangla, Math, and Science were identified as particularly challenging, with students forgetting basic concepts, struggling with reading fluency, and facing difficulties with fundamental math operations. This aligns with findings from other countries highlighting the negative impact of school closures on foundational skills, particularly in language and mathematics. Bertoletti et al. (2023) found a consistent learning loss between grades 2 and 5 by analyzing the standardized test scores in reading and mathematics in 2020. In particular, the highest values of learning loss are found for mathematics achievement in higher grades. Starling-Alves et al. (2023) recommended that COVID-19 school closures led to gaps in students' reading skills across different cultures and languages.

The data suggests a possible difference in the severity of learning loss between the two divisions. Mymensingh data included reports of minimal or no learning loss in some schools. In contrast, Sylhet data suggests a more persistent and widespread learning gap. During the pandemic, learning loss occurs as a result of kids studying at home due to school closures. School closures do not have to result in an equal loss of learning for all students.(Zhdanov et al., 2022)These variations could be due to several factors, including pre-existing learning disparities, and the effectiveness of remote learning strategies employed during school closures. The ability of students to engage in online learning varied considerably, depending in part on the availability of internet connectivity and access to computers (Herold, 2020).

Both divisions identified similar factors contributing to learning loss. These included the disruption of regular classroom learning, lack of access to support at home for disadvantaged students, and potential issues with the continuity of learning during closures. Limited access to technology and the effectiveness of remote learning approaches, particularly online classes impacted students learning during the pandemic. Research highlights certain deaths such as the weakness of online teaching infrastructure, the limited exposure of teachers to online teaching, the information gap, non-conducive environment for learning at home created an impact on the teaching and learning process across the world (Pokhrel & Chhetri, 2021) These challenging factors could have played a role in the extent of learning loss.

To address learning loss upon school reopening, both divisions implemented remedial plans. These plans focused on foundational skills, mixed-ability grouping, and strategies to increase student engagement. Mymensingh data suggests a potentially more comprehensive approach, with targeted interventions like extra classes, individual support, and the use of an 'Accelerated Learning Plan'. The perceived effectiveness of these interventions seemed to be higher in Mymensingh, with reports of improved student performance. While employing similar strategies in some areas, Sylhet acknowledged a more persistent learning gap. A crucial difference

emerged regarding student promotion practices. Sylhet data suggests students were promoted despite learning gaps, potentially creating a foundation for future challenges.

In a low-resource context like Bangladesh, school teachers face challenges in conducting their teaching-learning activities. Songbatumis (2017) found a lot of challenges teachers face at the time of conducting classes. According to his article it can be said that a number of challenges emerged, partly coming from students, partly from teachers, and partly from the school's facility, namely, students' lack of vocabulary mastery, students' low concentration, students' low motivation, students' lack of discipline, students' boredom, speaking problem, shortage of teachers' training, teachers' language proficiency issue, limited mastery of teaching methods, teachers' unfamiliarity to high-tech, teachers' lack of professional development, inadequate resources and facilities, and time constraint. Besides, struggling to ensure students' attendance, the teachers found that the students lacked foundational skills. In the study, the teachers of Mymensingh reported that many students struggle with basic reading skills, including letter recognition, joint letters, and connecting letters into words and sentences. This weakness in Bangla creates a barrier to learning in other subjects. Similar issues exist in math with a limited understanding of place value, fractions, and basic operations. On the other hand, the same scenario also prevailed in the Sylhet division. The students of Sylhet division have regressed in reading and writing skills due to school closures during COVID-19. They lack basic letter recognition, and joint letter knowledge, and struggle with reading and writing words and sentences. Math learning is also impacted as students have forgotten counting, place value, and basic operations. These challenges significantly impacted student's performances in NSA. Students with weak foundational skills struggle to keep up, leading to frustration and hindering overall progress. The disruptions also caused by irregular attendance break the flow of lessons, making it difficult to build on prior knowledge.

Teachers and parents communicate specific information on the student's development, attitudes, and academic achievement including disclosing updates on tasks, exams, and in-class activities, as well as any issues or successes (Kaptich, Kiplangat & Munyua, 2019). Beside that (Redding et al., (2011) mentioned that the school community's purpose is to ensure that each student acquire the knowledge , skills, habits and attitudes necessary for success in school and in life. Effective communication and collaboration between parents, teachers, and communities are crucial for student success. Teachers in Mymensingh actively engage with parents through regular meetings, phone calls, and home visits to discuss student progress. Moreover, SMCs in Mymensingh are actively involved in creating a supportive learning environment. They provide resources for the school, encourage parent participation, and celebrate student achievements. On the other hand, SMC involvement and communication between teachers and parents in Sylhet appeared less frequent compared to Mymensingh. Parents reported less interaction with teachers about student progress beyond basic attendance and exam information. This strong collaborative effort between teachers, parents, and the community fosters a positive learning environment in

Mymensingh schools, contributing to better student performance on the National Standardized Assessment (NSA) test. While Sylhet has room for improvement in ensuring SMC's active involvement in creating a congenial school learning environment and guardian's collaboration in supporting student learning.

Chapter Seven

Recommendations

The main purpose of this study was to determine factors broadly influencing students' performance at NSA report 2022. This study was just an initial stage for knowing the factors. The following recommendations have been drawn from the study for teachers, policymakers and for education experts for further research and developing students' performances.

7.1 General Recommendations

- As NSA is a representative examination. So if Sylhet division put emphasis on NSA like Mymensingh division the result of Sylhet could have changed.
- Sylhet and other divisions can follow the activities performed by Mymensingh Division for better performances.
- An effective monitoring system can be ensured in Sylhet divisions.

7.2 Recommendation for further research:

- For the limitation of the objectives, it was not possible to find out the significance level of all factors influencing on student's performances. As all the factors are not contributing to student's performances at the same level, so a research can be conducted to find out "which factors are contributing to students' performance at what level."
- A study can be conducted to find out which factors are influencing on literacy and numeracy skills development of the students.

Conclusion

In summary, the present qualitative research discovered significant distinctions in the factors that contribute to the higher academic achievement of students in the Mymensingh division relative to their lower performance in the Sylhet division. The results highlight the significance of creative teaching methods, engaged parents, good parent-teacher communication, and strong community involvement in creating a supportive learning environment for students to succeed. To address learning obstacles and improve student results in both divisions, the study's recommendations highlight the necessity of evaluating and improving teaching methodologies, parental participation, remedial plans, usage of online platforms, and communication between stakeholders. The performance gap between the Mymensingh and Sylhet divisions can be reduced by addressing those factors and implementing targeted interventions into place. This would ultimately contribute to ensuring equitable access to high-quality education for every student.

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