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Editorial

The National Academy for Primary Education (NAPE) is going to publish the eleventh issue of the "Primary Educational Journal" which is a yearly publication. This journal opens a professional scope for educational researchers to sh5are their study findings on different issues of primary sector. As an apex training and research institute in primary education, NAPE wants to spread innovative thoughts and ideas because of supporting quality primary education.

This issue includes eight research based articles that cover different dynamics of primary education. The first article about inclusive education tried to investigate the present situation of teachers' understanding about Inclusive Education on selected Primary Schools in Mymensingh City. This study explores that teachers do not have a clear idea about the concept of inclusive education and most of them are not found capable of dealing properly with the special needs students in the classroom. The infrastructures of the schools (school building, classroom, toilets, playground etc.) are not fully accessible. The second article is about the new approaches of primary mathematics textbooks of Bangladesh. This article explores the nature of practices and challenges faced by the teachers to implement the new textbooks in the classroom. The third article focuses on engaging elderly people in Government Primary Schools of Bangladesh. This qualitative (basic interpretive) study tried to explore the intergenerational education program concept in primary education sector of Bangladesh. The fourth article tried to explore the use of teaching methods and techniques effectively at the primary level in Bangladesh. Another article also tried to explore the factors influencing the reflection of "Teachers Edition" in practising primary science teaching.

This issue also includes a few papers about reading fluency on Bangla and English. One article explores the students' reading ability in English at grade four in government primary schools in Bangladesh. Similarly, another article pointed out the present status of Bangla reading fluency with the understanding of grade III students at the government primary schools in Bangladesh. Besides, an article includes reading skill of English of grade 3 students. The focus of this paper is to find out the causes

of present learning gaps in reading English of grade 3 students and a way-out of those deficiencies in learning.

I think all of these papers will make a contribution for ensuring quality primary education in Bangladesh. I believe that we have to make sure evidence-based solution process to take new interventions in the primary sector which will help the policy makers to formulate and implement policy effectively.

I would like to give my heartful thanks to the members of the editorial board for providing their expertise and doing the hard work needed for making the journal an international standard one. I would also like to give thanks to the panel of experts for their intellectual support and thoughts for ensuring the standard of papers.

Finally, I would extremely appreciate readers' opinion and comments on the present issue which will encourage us to enrich and improve future publications.

Md. Shah Alam (Additional Secretary)
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Present Situation of Inclusive Education: A Study on Government Primary Schools in Mymensingh City

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Every child has the right to get free and compulsory primary education. Inclusive Education (IE) is the most effective way to ensure learning for all the children. The aim of this study is to investigate the present situation of teacher's knowledge, skills and understanding about IE. A mixed model method in composition of qualitative and quantitative method was used to conduct this study. The data were collected from five sampled schools of Mymensingh city and purposive sampling was used for selection schools. Semi-structured interview, FGD guideline, and observation checklist were used for collecting data. Study shows that the most of the teachers have no clear idea about the concept of IE and most of them are not capable of dealing properly with the special needs students in the classroom. The infrastructures of the schools were not fully within reach for the special needs students. This study recommended for ensuring IE related training for the teachers, supplying necessary multi-sensory teaching-learning materials to all the schools, creating awareness among the guardians, infrastructural development of the school, and arranging user friendly toilets for special needs children.

Key words: Inclusive Education, Special needs students, Autism, Gifted child,

Introduction

Inclusive Education (IE) is an approach to improve the education system by limiting and removing barriers to learning and acknowledging individual children's needs and potential. IE means that all students in a

school, regardless of their strengths or weaknesses in any area, become part of the school community (UNESCO, 2005). Now it is globally considered as a viable strategy for ensuring access, participation and achievement of all learners in the mainstream education settings. The principle of IE was adopted at the World Conference on 'Special Needs Education: Access and Quality' (Salamanca, Spain, 1994), restated at the World Education Forum (Dakar, Senegal, 2000) and supported by the UN Standard Rules on the Equalization of Opportunities for persons with disabilities. IE has now gained the acceptance of the global development arena. Hence Goal: 4 of Sustainable Development Goal (SDG) declared to ensure equal access, inclusive and quality education for every student.

Agreeing with all the international treaties, Bangladesh is committed to address IE within the existing education system. The Constitution of Bangladesh (1972) in article 17 clearly stated how the state should provide education to all children without making any discrimination. Besides these, Bangladesh has been embedded IE in different policy and legislations; including Compulsory Primary Education Act, 1990, National Education Policy-2010, Persons with Disabilities Rights & Protection Act 2013.

Primary Education Development Program (PEDP)-II (2004-2011) incorporated a specific component on IE to address diversity in the regular school system and access, and an IE Cell (AIEC) was established in 2005 at the Directorate of Primary Education (DPE). After that PEDP-III (2012-17) developed an IE Framework. Similarly in the current PEDP-4 significant importance has been given on IE strategies. Accessible infrastructure for students with disabilities, such as, ramps has been built in all the primary schools. Extra time has been introduced in the Primary Education Completion Examination (PECE) for the students with special needs in primary education of Bangladesh.

Rationale of the study

Bangladesh is a signatory country of SDG, which have proposed a worldwide vision to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." In order to address growing inequalities a number of genuine barriers that continue to hamper the progress of truly implementing inclusive practices in regular classrooms. According to Ahsan, (2013) *'Bangladesh is not behind other developed countries in enacting laws and declarations in favor of IE, but a lack of resources is the main barrier in implementing IE'*. Malak and Others, (2013a) found out that, *Teachers' attitudes towards IE and limited professional development are major barriers to implementing IE at school level*. They also added that *infrastructural development has not been*

reached its set target (DPE, 2012) and teachers have demonstrated disappointments on inadequate classroom facilities for practicing IE (Malak, 2013a).

Kawser, Ahmed, and Ahmed (2016) identified some barriers of implementing IE in Bangladesh like, lack of social acceptance, lack of trained teachers in IE system, higher student-teacher ratio, un-friendly school infrastructure and inflexible curriculum is a big problem for the special needs children in Bangladesh.

So mapping out the key challenges and opportunities in moving towards inclusive quality education is the crucial contemporary issue in the Primary Education Sector of Bangladesh. In this regard this topic was selected to find out the real situation of five selected schools of Mymensingh city.

The present study will be useful to the practitioners regarding implementation of IE in primary level, for the policy makers, and also for redesigning the existing teacher education program DPEd curriculum and teachers' Continuous Professional Development (CPD) training program.

Problem Statement

From the above discussions it is found that Bangladesh government has adopted policies and programs for implementing IE but there are some challenges. The present research is therefore attempted to assess the teachers' professional skills and practice concerning IE as well as identify the problems of inclusion of the SNS. Teachers' attitudes, lack of physical facilities for the special needs students and social awareness are the major difficulties for implementation of IE.

Objectives of this study

The main objective of this study is to measure the present status of teacher's knowledge, attitude regarding special needs children exclusively autistic and other disabled children, complication to admit children in government primary schools and the infrastructure of the school and how far they are in favor of special needs children. The specific objectives of this study are:

- to identify the status of teachers' knowledge, skills and understanding about IE .
- to identify the scenario of inclusive practice at classroom teaching.
- to assess the physical facilities of school regarding Special Needs Students (SNS).

Methodology

Both qualitative and quantitative approaches were used in this research. The data were collected from five purposively sampled government primary schools of Mymensingh Divisional City. Respondent of this study were five head teachers (HT) of five selected schools, ten assistant teachers (AT) also selected purposively two from each school who are experienced about dealing special needs children at classroom teaching, associated cluster AUEO and a group of parents of SNS from each school. Data were collected from HTs, ATs and AUEOs through administering questionnaire, an observation checklist was used for assessing the infrastructural facilities and FGD conducted for collecting data from parents of SNS. Collected data are presented both in tabular and text format; some important findings are also presented in graphical format for rapid understanding. The qualitative data have been analyzed thematically.

Results

The findings and discussions are presented according to the research objectives, which are as follows:

Present status of teachers' knowledge, skills and understanding

According to the research objectives the study team tried to find out the present situation of teacher ability to face successfully the special needs children and conduct classes inclusively.

Academic Qualifications: Most of the respondent teachers (70%) obtained university degrees (Graduate or post graduate) and rest of them were HSC or SSC. Almost all of them (90%) received professional in-service training provided by Primary Teachers' Training Institute (PTI). Some of the respondents teachers mentioned that through their academic studies and professional training they got a little idea about IE, which they use to conduct their classes addressing the IE related issues.

Training on IE: Among the total 15 respondents only 5 (33%) received a five-day training on IE and it is also important to mention here that all of them are head teachers. Through the above-mentioned training the teachers have gathered a basic idea on autism and IE, and learnt some techniques to deal with the SNS in the common classroom. There was no follow-up activities to ensure the implementation of the training. The AUEO of the respective cluster informed that there are a total of 161 teachers (including head teachers) in her cluster and among them only 19 head teachers got the opportunity to receive training on IE.

Teachers' self-satisfaction about their present skills of dealing with SNC: Almost all the assistant teachers (90%) are not satisfied about their

present skills of dealing with SNS, students particularly autistic children management. On the other hand the head teachers opined that they are partially skilled in this regard. It is important to note that all the assistant teachers are agreed about their necessity of IE related training. Similarly all the head teachers realized that they need refresher training on IE.

Teachers' understanding about IE: In this study 5 head teachers and 10 assistant teachers were interviewed. Most of the teachers do not have concrete conception on IE. They think that only the combination of normal and disabled students in one classroom is IE. On the other hand most of the head teachers have a better idea than the assistant teachers. They think that 'IE' means, to ensure quality education for all the children without making any discrimination among the children including special needs, the rich, the poor, highly talented and the slow learners'.

It is also important to note that the teachers are not well-informed about the term 'special needs children'. They do not have any idea about special needs of the talented children. In the above situation most of the teacher confidently answered that talented children are not special needs children.

Present Situation of practicing IE

The composition of teachers' sufficient knowledge and its use is important for implementing IE at school level. One of the objectives of the study is 'to assess the status of inclusive strategy practice in classroom teaching learning activities'.

Special needs children in the schools: Among the respondent teachers and head teachers 80% informed that there are special needs students in their schools and 20% of them responded that they do not have special needs children in their school now, but they have experience of dealing with special needs students.

Seating and classroom arrangement: In the study area all the sample schools practice traditional seating arrangements. Male and female students seat in separate benches which are placed side by side in the classroom. Most of the teachers opined that they are concerned about special needs children's seating arrangement, but ensuring special needs children-friendly seating arrangement is not possible all the time for limitations of materials and physical facilities. They added that they try to fulfill the requirements of special needs students by arranging their seats in suitable places, showing tolerance to them, giving reward, extra time, extra care and arranging help from the advanced learners. In this regard a mother form Gulkibari GPS comments, *"Teachers are showing positive attitude towards physically*

*challenged children at school premises. They are willing to support the disabled children in classroom activities. They gave good time to them for better understanding" (*FGD5).

Another mother from Police Line GPS said, "When the teachers of this school overheard that my boy is physically challenged with eye bad-sight they took decision to set him at the front of classroom. That is why he can see everything and participate in classroom activity(FGD4).

On the other hand a few guardians have bitter experiences in this regard. A mother from Kacijhully GPS said, *"Teachers are not willing to give preference my child. In most of the cases, she has to sit at the back of the classroom and teachers are not going to visit her regularly. That is why she feels boring to participate in classroom activity" (*FGD3).

Obstacle for Normal Classroom Activities:

Table 1: Disable students are obstacle for normal classroom

Obstacle for normal classroom	%
Disable children are obstacles	40
Disable children are sometimes obstacles	20
Disable children are not obstacles	40

Students with special needs are complications to conduct teaching-learning properly according to 40% respondent teachers and 20% teachers were of the view that disabled children are insignificant obstacles in this regard, but rest 40% teachers have unpleasant experience in this view and they opined that sometime special needs students are impediment of normal class or fully impediment to conduct class with normal students. Special needs students need extra time and care but that is not possible*,* they added. Though the opinion is varied among the teachers about the SNS obstacles to classroom activities every teacher is agreed about challenges regarding management of special needs children in classroom situation. "*Mentally disabled children are sometimes aggressive and they do not come to school regularly*" (AT9) mentioned by a teacher. Sometimes autistic children become aggressive and they shout in the classroom. As stated by a classroom teacher, "*Inattentive, quarrel with others, shouting loudly and cannot follow the teachers' command"*(AT4). Physically challenged students are not obstacles like autistic children but they have some complexity which is impediment to conduct a class smoothly. A teacher discoursed in this regard, "*some of them are unable to see the blackboard properly, and cannot participate in the lesson spontaneously and also unable to respond to teachers instructions"* (AT1).All the respondent teachers are agreed that teacher have to give extra time and care to manage the special needs children and to ensure learning for all. A head teacher mentioned "*it is needed to spend extra time for them"*(AT6).

Teachers' undertaking to face challenges: However the teachers have to face some challenges in conducting IE classes they try their best to ensure IE. As a teacher mentioned "I use some strategies to manage my class like repeating the instructions, teaching by using games and another joyful activities for everyone. So that the special needs child feels better" (AT5). Physically challenged students are not problems for others if a teacher can make him/her active with teaching learning activities. A teacher has shared his experience "In my class there is a hearing-impaired boy. So I convey my instructions and lesson loudly, and sometimes I arrange his seat in the first row" (AT7). Most of the teacher try to manage the classroom activities according to the instructions of head teacher. A head teacher stated *"I instructed my teachers to give special needs children extra lime and care, to show more concentration and sympathy to SNS and making pairs with normal students"* (HT2). It is true that most of the time an autistic child is not manageable by normal teachers because there is a of lack of training and experience. So the teachers have to communicate regularly with the parents of SNS. A teacher stated *"I communicate with parents of SNC regularly and sometimes student's mother stays at school to instantly solve the problems"* (AT10). In this study all respondent teachers discoursed that they suffer from lack of training and other facilities but everyone works sincerely for SNS but the response of parents is not the same. Parents sometimes disagree with teacher's statements. A mother mentioned *"Teachers feel disturbed when my son came to school and I have to stay in front of the classroom for all the time"* (FGD3).

Peer support for Special Needs Students: SNS are receiving different types of support from their peers. In this regard 50% respondent parents mentioned that other classmates play with their children, 30% parents disclosed that other children help their kids to learn and to complete the task in the   classroom and 10% mentioned that other neighboring children provide support to their disabled children for doing homework. On the other hand, some guardians have different experience. A parent of a sample school mentioned that, *"Peer boys tease my son in school"* (FGD2).

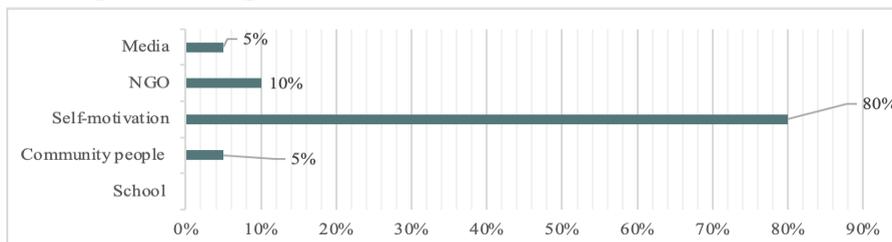*Inspiration to get admission in schools:*

Figure-1: Getting Inspiration to Admit the SNS into Schools

Most of the parents (80%) stated that they admitted their children to school by self-motivation. Another 10% parents mentioned that the NGO personal inspired them to admit their child to school, while 5% parents said that the community people inspired them and the rest 5% parents informed that the school inspired them to take this decision. Though the respondent parents admitted their children into the schools but some of them had to face great struggle to admit their children. A mother of a sample school talked about that and said *"I have to request several times to admit my child but the school authority denied. After my heartiest request authority gave chance to admit my child to school"* (FGD$_2$).

Support for the teachers from HTs and other officials: The teachers said that most of the time the head teachers support them to face the challenges created from inclusive issues. Upazila Education Officers (UEO) and (Upazila Resource Centre (URC) instructors also give them motivation to teach the special needs students sincerely. However all the assistant teachers and head teachers informed that they did not get any teaching learning aids for special needs children from the Upazila Education Office. Only a HT mentioned, *"I have received an 'Eye Chart' from Upazila Education Office, but we do not know how to use that"* (HT$_3$).

Two head teachers out of five stated that they got instructions for buying teaching aids from the School Level Improvement Planning (SLIP) found and the other 3 HTs informed that they did not get such instruction. The teaching aids they bought are: Big letter cards written in colorful font and teaching related attractive pictures.

School infrastructures considering IE

Physical facilities is a very much important issue for accessing the special needs students (SNS) in schools. Therefore researchers found out the infrastructural status of the selected schools by a checklist.

SNS friendly infrastructural facilities: It is found that in most of the schools infrastructure is not arranged and equipped to meet the IE needs. From the school observation, it is found that 40% of the schools have ramps to enter the school building while other 60% don't have this facility properly. Moreover the other 60% schools have two or three buildings, but ramp facilities exists only in one building. On the other hand during FGD, most of the parents (80%) mentioned that their disabled children have to face challenges to come to school, while 20% parents stated that they do not have to face any kind of challenges. In this regard a mother form Kancijhulli GPS remarked,

> I have a physically disabled girl, who is studying at pre-primary class in this school. She came to school by a wheel chair that is operated by me or

my younger sister. The school gate is not suitable for a wheel chair. That is why we faced difficulties to come to school (FGD$_5$).

Classrooms: Among the sample schools 40% classrooms are built according to the needs of special children (visually and physically disabled children). It was also found that all the schools have classrooms with enough rooms for sitting arrangements for both the boys and the girls. It is also noticeable that only 20% of the classrooms the chalkboard/whiteboard have been setup according the demand of the special needs children. In most of the cases (80%), chalkboard/whiteboard are setup in such a place that special needs children particularly the visually impaired children cannot see the writings of the board clearly.

Learning materials, equipment and furniture: It is revealed that all the schools have insufficient teaching learning materials for all the students including the SNS. It is also found that there is not enough equipment available in the schools for the SNS to play. Moreover, it is mentionable that only 20% schools have SNS friendly infrastructure including playing facilities. Only 20% schools have classrooms with adequate furniture for doing group work all together including the special needs children.

Toilet facilities: It is found that 80% of the schools have toilets or wash-block facilities with separate entrance for boys and girls. In 40% schools have separate toilets for the physically disabled boys and girls while other 60% schools do not have that facility. A comment from FGD is very important to add here from a mother of a SNS. She stated,

> I have to come to school regularly with my child. Not only me but also all parents of physically disabled children have to come to schools for meeting the needs of their children including using toilet, shifting classrooms, playing and so on (FGD$_4$).

Another mother from Sankipara GPS said, *"Toilets of this school are not suitable for disabled children. When my child needs to use toilet during school time I need to carry him home" (FGD$_2$).*Thus the school infrastructure and its environment have lots of problems for the special needs children. It is very important to make the schools ready for the SNS to make it inclusive friendly.

Playing materials and school field: Among the respondent parents 60% mentioned that school fields are not suitable for the disabled children. In addition, the playing materials are not adequate for them is mentioned by the 90% parents. For example, a mother of an SNS mentioned,

> Schools have not playing materials for disabled children. In some cases, disabled children did not get any kind of opportunity to play at school field or indoor games. The normal children are getting sufficient playing

materials from schools whereas disabled children are neglected here (FGD$_5$).

Major Findings

The major findings of this study are presented as following the research objectives.

Teachers Present Skill about IE

- Only 10% teachers are trained on IE and all of them are HTs.
- Almost all the assistant teachers (90%) are not satisfied with their present skills of dealing with special needs students and the head teachers are partially skilled in this regard.
- All the teachers and head teachers realize that they need training/refresher training on IE.
- Most of the teachers have general concept on IE but they have no concrete concept on IE.
- About 20% teachers have no idea about special needs of the gifted children.
- 60% teachers opined that disabled children are obstacles to conduct teaching-learning in inclusive classroom.

Level of Practicing Teachers' IE Knowledge in Classrooms

- Special needs students are now available in most of the schools.
- Most of the teachers opined that they are concerned about special needs children's seating arrangement and they try to arrange their seats in suitable places as much as possible.
- In 80% schools seating arrangement for the boys and girls are side by side in the separate benches.
- The teachers try to fulfill the needs of SNS by arranging their seats in suitable places, showing tolerance to them, giving extra time, extra care and arranging help by the advanced learners.
- Most of the teachers and head teachers face some challenges during teaching the SNS, such as aggressiveness, absenteeism, want of response etc.
- The teachers get a very little help from the ATEO, URC instructor to face the challenges regarding IE issue.
- The schools usually do not get any equipment for the SNS

School Infrastructure

- It is found that in majority of the cases, school infrastructure is not arranged and equipped to meet the IE needs.
- Only 40% schools have ramp facilities to enter the school building.

- Only 40% classrooms are built according to the needs of special children (visually and physically disabled children), however all the schools have big classrooms.
- Only 20% of the classrooms chalkboard/whiteboard have been setup according to the demand of the special needs children.
- All the schools have insufficient teaching learning materials for all including SNS.
- Most of the school does not have suitable fields and equipment for playing by the SNS.
- Only 20% schools have classrooms with adequate furniture for doing group work all together including the SNS.
- 80% schools have toilets or wash-block facilities with separate entrance for boys and girls.
- Finally 40% schools have separate toilets for the physically disabled boys and girls.

Recommendations

Based on the findings of this study the researchers recommended-

- Training must be ensured for all the teachers and head teachers step by step to make them efficient for conducting IE.
- The duration of the training should be increased by 10 days to provide them all the necessary information.
- Refresher training is also needed for them who already received training.
- Training must be ensured for all the education officers for proper supervision.
- In case of absenteeism home visit of the SNS must be ensured.
- Necessary equipment for the SNS have to provide in all the schools by the government.
- All the school buildings must have ramps for easy access of the physically disabled students.
- Classrooms should be prepared and equipped to meet the IE needs .
- All the schools must have separate wash blocks for the physically disabled boys and girls.
- All the teachers should be more sincere to meet up the demands of the SNS. They will ensure an inclusive friendly school atmosphere.

Conclusion

As a signatory country of SDG Bangladesh is committed to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all the citizens. In this regard IE is considered as a viable

strategy for ensuring access, participation and achievement of all the learners in the mainstream education settings. This small scale research explores the scenario of IE practices in the government primary schools of Mymensingh city in Bangladesh. It provides the information that want of mass awareness and shortage of resources is the main barrier in implementing IE. For want of sufficient training, the teachers are not efficient enough on inclusive pedagogy and the school infrastructure is not ready properly to ensure the implementation of government's IE policy. Now it is very important to take necessary steps for proper implementation of IE to ensure the use of its human resources properly.

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Ali, Islam, Siddik & Salahuddin

Students' Performance in Reading with Understanding in English at Grade Four: A Scenario of Primary Schools in Bangladesh

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This study explored the students' reading performances in English at grade four in government primary schools in Bangladesh. Mainly this study follows the quantitative research design as nature. Individual achievement tests have been used to assess the students' performance in achieving comprehension skills in English. The data were collected from students who are studying at government primary schools in class four using achievement test and classroom observation. Following the achievement test, it was found that few students could match all the words and sentences correctly with pictures. Besides, students showed poor performance in answering the Multiple Choice Questions correctly given in the graded text. A positive correlation was found between the matching sentences with pictures and reading comprehension and it has also shown a strong significant relationship between them. The results indicated that teachers should design the teaching-learning activities following teachers' edition and provide ample opportunities for students to practice reading skills in the classroom.

Key Words: Reading skills, Matching, Comprehension Skills, Learning Competencies, Achievement test.

Background of the study

The National Education Policy-2010 sets 30 aims and objectives for education in Bangladesh and in goal no 12 emphasized learning English. Besides, this policy also recommended considering English as a compulsory subject in the curriculum (Ministry of Education, 2012). The students are being taught English as a compulsory subject from grade one to grade five.

The national curriculum in Bangladesh was revised by the National Curriculum and Textbook Board (NCTB) in 2012 by following the outline of National Education Policy- 2010. The NCTB has defined a total number of 29 terminal competencies for primary education. Out of these terminal competencies, number 10 specifically asked learners to achieve basic skills of English as a foreign language and use it in daily life (National Curriculum and Textbook Board [NCTB], 2012). Based on the terminal competencies, a total number of 31 subject-based terminal competencies were also defined categorically to ensure the students' learning English whereas a total number of 7 subject-based terminal competencies also deal with reading skills.

The purpose of teaching English at the primary level is to help students to develop competence in all four language skills in English through meaningful and enjoyable activities (National Curriculum and Textbook Board [NCTB], 2012). Out of four main objectives of learning English, the number 3 objective stated *"to read and understand different types of text appropriate to the learners' ability level"* (National Curriculum and Textbook Board, 2012, p.3).

In our national curriculum, a total number of 13 class-wise attainable competencies were clearly defined for achieving students reading skills at grade four. If the students were able to achieve the targeted 13 class-wise attainable competencies they can read out the grade-level words, phrases, sentences and texts correctly. They can also recognize cardinal numbers and ordinal numbers and punctuation marks correctly. Moreover, the students will be able to understand the paragraphs, stories, personal letters, and other texts materials following answering given questions (National Curriculum and Textbook Board, 2012).

The English for Today (EfT) books of the primary level were developed following the subject-based terminal competencies. Reading aloud and silent reading activities have been included in those textbooks. It is observed that the National Education Policy, primary curriculum, and textbooks emphasize learning English for communicating locally and globally. In this study, reading skill is crucial for a child's success. Most often, the barriers confronted by students with difficulty in reading decline

their desire to read and, without proper support, they never overcome the problem. Learning to read is a sequential process, and the new skill builds on the mastery of previously learned skills. Early on, for example, children learn to break down words into their most basic sounds. Later, they begin to comprehend the meaning of words, sentences, and passages of a text.

The ability to read and comprehend a simple text is one of the important skills a student should have achieved. RTI International (2015) stated

> "without basic literacy, there is little chance that a child will escape the intergenerational cycle of poverty. Yet in many countries, students enrolled in school for as many as six years are unable to read and understand a simple text. Evidence indicates that learning to read a book early and at a sufficient rate (with comprehension) is essential for learning to read well" (p.2).

Finally, reading skills are vital for children's development, and consecutive studies have shown a link between competency in reading and overall attainment. This study tried to identify the students' reading ability in English at grade four in government primary schools in Bangladesh. It is mentioned that this is so far the first attempt to examine the reading ability in English whereas contemporary research is focused on finding the readability of Bangla language.

Rationale of the study

The ability to read acts as a crucial factor in developing confidence and a good self-image among learners. Poor readers often have low opinions of themselves and their abilities. Many times they feel as if the world is against them. They perform poorly in other subjects because they cannot read and understand the material. Often the reader tends to give up.

The experts of RTI International, who have developed the Early Grade Reading Assessment Tools (EGRA) tool kit, cited the importance of assessing reading as basic literacy is the foundation. Children first need to learn to read so that they can read to learn. As children pass through the grade levels, more and more academic content is transmitted to them through text, and their ability to acquire new knowledge and skills depends largely on their ability to read and extract meaning from text.

Reading disability of children hinders them to acquire basic knowledge that they are expected to achieve according to their age level. Sometimes severe reading disability demotivates the students to participate actively in the school activities; most often they drop out of schools. More than 250 million children around the world are not learning foundational reading skills (UNESCO, 2020), 130 millions of whom have spent at least

four years in school (UNICEF, 2015). So, it is a crying need to address this critical problem by connecting stakeholders, individuals, and organizations committed to ensuring that all children can read.

Moreover, in National Education Policy-2010 and National Curriculum-2012, it has been clearly stated that students should achieve reading skills in English to communicate locally and globally. In each grade learning outcomes are set on reading aloud and silent reading skills. In grade 4, students are expected to recognize words, read sentences, and comprehend the texts; whereas basic reading skills are supposed to be achieved in early grades. So, it demands a study to know the present situation of students' readability in English.

It is observed that, when a child's reading disability is identified early, that child is more likely to learn strategies that will raise his or her reading eagerness later. So, it needs to conduct a study to know what extent of the grade 4 students have achieved the expected learning outcomes. What are the teaching-learning strategies being followed in the classroom to enhance students' reading skills? What are the limitations to achieve the desired goal? Besides, based on the findings the study recommended some steps for practitioners and policymakers, which will help the authority to mitigate the reading inability issue effectively.

Research context

The primary education level is compulsory for 6+ children in Bangladesh since 1990 after the signing of EFA declaration. The government is trying to ensure world-class education to shape the basic level of students through primary education. They took different initiatives for tracking its development in the last few decades. For example, the National Education Policy 2010 and National Curriculum 2012 set different bench-mark for developing English language skills of primary students from curriculum to textbooks where reading is treated as an emphasized area in English.

Developed countries like OECD countries are assessing their students' performance through the PISA exam. Similarly in Bangladesh, students' performance on reading in Bangla is assessed through the National Students Assessment (NSA) since 2006, while the ability of reading English was still not assessed in NSA. English is a compulsory subject at primary level and every exam including PECE assesses the students' two skills (reading and writing) out of four basic skills of English language through a paper-pencil test. Regarding learning English as a foreign language, most of the students have a panic about this language and

generally, they got poor marks in English at all primary level exams. Regarding these aspects, the researchers decided to assess the students' reading skills in English, and this is so far the first attempt in this country.

Objectives of the study

The main objective of the study was to explore the reading ability in English of class four students of government primary schools in Bangladesh. Here, the researchers have tried to discuss students' performance in reading with understanding. To satisfy the query, the researchers explored the answers of -

a) how well students perform in matching words and sentences with the pictures?
b) how well the student can perform in reading comprehension activities?
c) what teaching-learning strategies are being followed in teaching reading?

Methodology

Mainly this study follows the quantitative research design. Here we used an individual achievement test to identify the students' learning level on English reading segment. According to Reynolds, Livingston, & Willson (2011), *"standardized achievement test is used in the identification, diagnosis and classification of students with special learning needs"* (p.324). Following this achievement test, the numeric data were collected from students who are studying at government primary schools in grade four in Bangladesh.

The study covered all the educational divisions considering the geographical locations in Bangladesh. A total number of 28 schools from 10 districts were selected randomly from the national school list prepared by the directorate of primary education. Then, the total number of 280 students were selected randomly from grade four. Besides, a total number of 10 English classrooms were selected purposively to observe the teaching-learning activities regarding teaching reading. Specifically, one classroom was selected from each district.

An achievement test including different types of items was administered to assess the attainable competencies (1.4, 3.1 and 5.1) for class four. These were matching words with pictures, matching sentences with pictures, recognizing the names of weekdays in a calendar, and MCQs for reading comprehension. Besides, a classroom observation checklist was used to perceive the English classroom situation about teaching reading.

Finally, the collected data were analyzed through descriptive statistics and inferential statistics by using SPSS.

Results

The collected data were analyzed to meet the research objectives where the researchers focused on assessing the attainable competency 1.4 (to read and match words and sentences with pictures) through matching words & sentences with a picture. Besides, the attainable competency 3.1 (to recognize and read the names of the days of the weeks and the months) was assessed. In addition, researchers also measured the attainable competency 5.1 (to read silently with understanding simple sentences, paragraphs and other texts) through reading comprehension test. Results and findings of the study were organized thematically as presented below:

Matching words with pictures

To assess the students' understanding in word meaning (attainable competency-1.4), five different words (accident, fried egg, intersection, overtaking, spinning top) were given according to their grade level and students were asked to match words with the pictures.

Table 1: The overall performance of matching words with the pictures

Number of words	% of Matching Words
Not correct any word	1.8
Correct one word	17.1
Correct two words	26.4
Correct three words	21.8
Correct four words	10.0
Correct five words	22.9

The above table shows that a maximum of 26.4% of students of class four were able to match two words and 22.9 % of students were able to match five words correctly with the respective pictures. Around 22% of students were able to match three words with the pictures, besides 17.1% of students were able to match one word correctly. Whereas, around 2% of students were not able to match any words correctly with the given pictures.

Figure 1: Gender-wise performance of matching words with the pictures

The above figure shows that there is no visible difference found in performances between boys and girls in correcting words with the given pictures. It is observed that students performed better in matching words "*Accident*" and "*Fried Egg*", whereas they least performed in matching the word "*Intersection*".
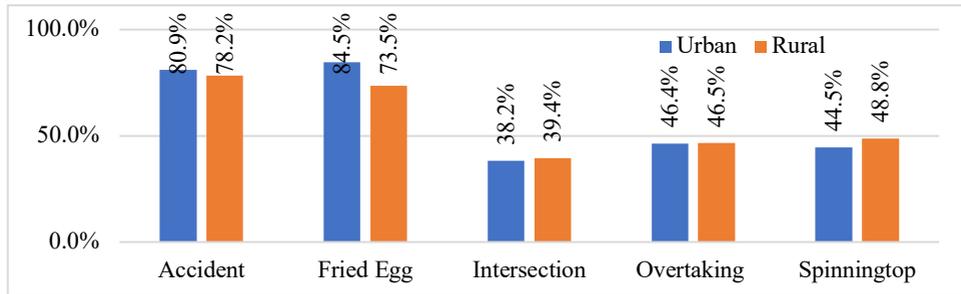
Figure 2: Location-wise performance of matching words with the pictures

The Figure-2 shows the location-wise students' performance of matching works and it is observed that there is no noticeable difference found in performances between urban and rural areas in correcting words with the given pictures. It is also found that students of urban areas performed better (84.5%) in matching word "*Fried Egg*" than the students of rural areas (73.5%).

Matching sentences with pictures

To assess the students' performance in understanding sentence meaning (attainable competency 1.4), five different pictures were used, where three sentences were given for each picture and students were asked to match the sentences with the pictures. The correct five sentences are "*There are vegetables in the picture*", "*The man and women are standing in a line*", "*The doctor is looking after the patient*", "*The people are using zebra crossing to cross the street*", and "*Three animals are under the quilt*".

Table 2: The overall performance of matching sentences with the pictures

Number of sentences	% of Matching sentences
Not correct any	10.2
Correct one	8.7
Correct two	13.5
Correct three	27.3
Correct four	25.5
Correct five	14.9

The above table shows that a maximum of 27.3% of students of class four were able to match three sentences and 25.5% of students were

able to match four sentences correctly with the respective pictures. Around 15% of students were able to match five sentences with the pictures and 13.5% of students were able to match two sentences correctly. Whereas, 10.2% of students were not able to match any sentences correctly with the given pictures.
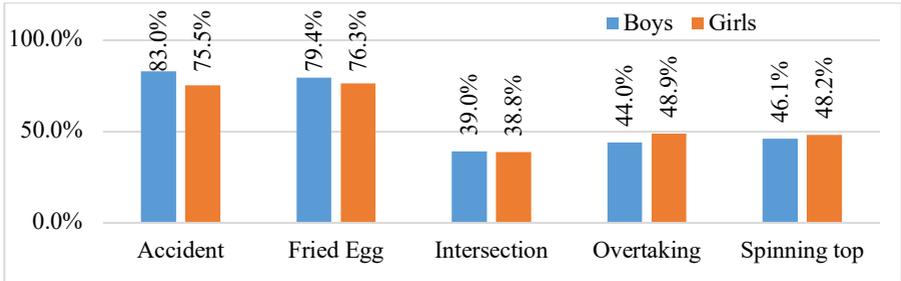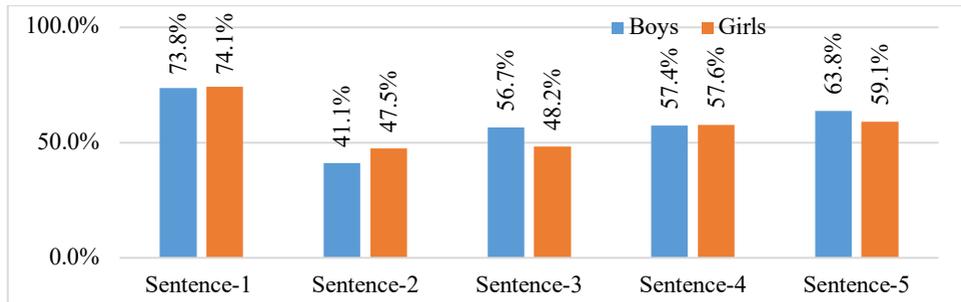

Figure 3: Gender-wise performance of matching sentences with pictures

The above figure shows that there is no observable difference in performances between boys and girls in matching sentences with the given pictures. It is observed that students (73.8% boys and 74.1% girls) performed better in matching sentence-one "*There are vegetables in the picture*" correctly. On the contrary, performance of about half of the students (41.1% boys and 47.5% girls) performance was not satisfactory in matching sentence two "*The man and women are standing in a line*".
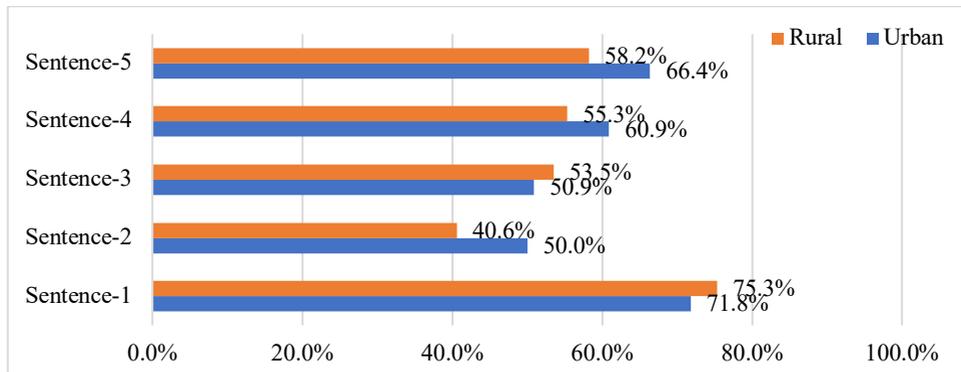
Figure 4: Location wise performance of matching sentences with pictures

This figure presents the location-wise students' performance in matching sentences with the pictures. It is observed that there was a little difference found in students' performance of urban areas. The students of urban performed better in matching sentences (sentence- 2, 4 and 5) than the students of rural areas.

Identifying weekdays from a calendar

To assess the students understanding about identifying weekdays from a calendar (attainable competency 3.1), a picture of a calendar showing one month was given following six questions. Students were asked to write the names of the weekdays in response to those questions.
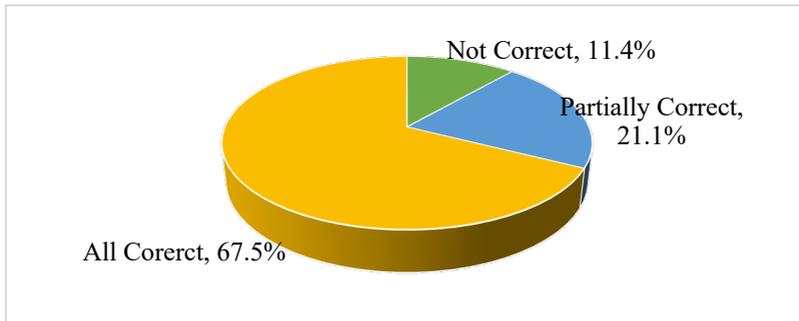
Figure 5: Students performance to recognizing weekdays from Calendar

The above figure shows that the majority (76.5%) students were able to answer all six questions correctly whereas 21.1% of students were able to answer correctly a few of the provided questions. It is found that around 12% of students weren't able to answer any of the questions correctly.

Students' performance in silent Reading

One simple text was used to assess students reading comprehension skills (attainable competency 5.1), which is taken from beyond English for Today (EFT) and comprises 43 words. The text is followed by five multiple-choice questions. The result of the students' performance is like-
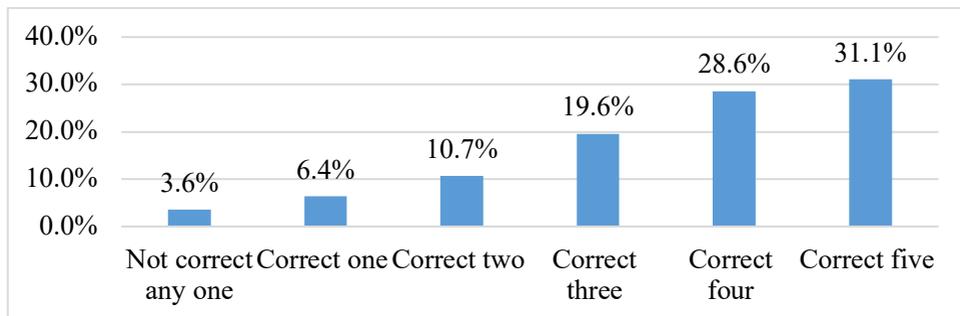
Figure 6: Students' overall performance in reading comprehension

The above figure shows that around 60% of students of class four answered correctly at least four multiple-choice questions given in the reading text. On the contrary, it is found that the rest of the students (40%) were not able to answer at least four MCQs correctly, which means their performance in reading comprehension is not satisfactory.
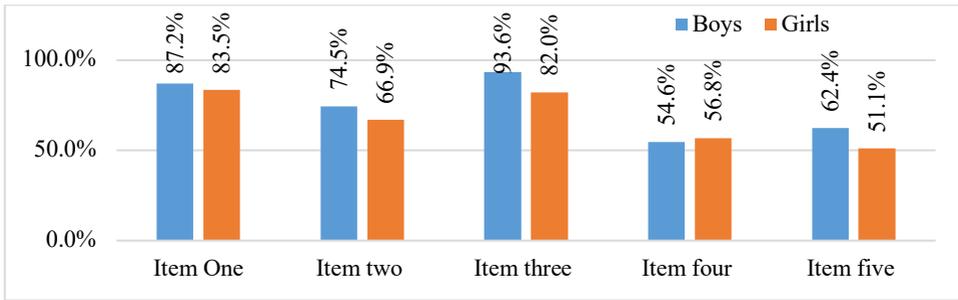
Figure 7: Gender wise performance in reading comprehension

The above figure shows that there is no visible difference in performances between boys and girls in MCQs. The first four items were mainly knowledge-based whereas item five was understanding based. It is observed that the students performed better in "Item one" and "Item three". Around 50% of students were able to answer correctly in "Item four" and "Item five".
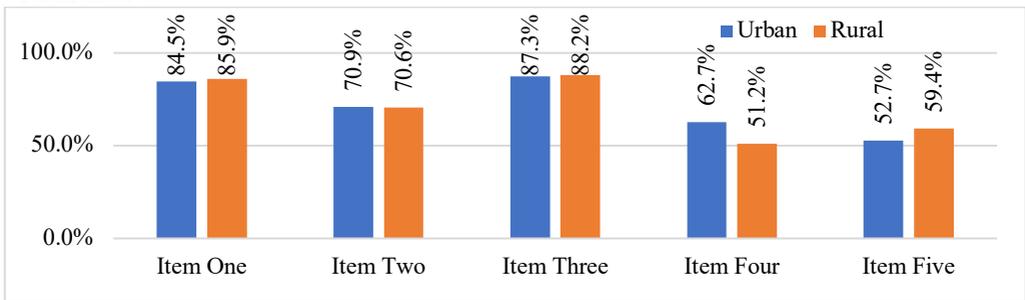
Figure 8: Location-wise performance in reading comprehension

The figure-7 shows that there is no noticeable difference in the performances of students of urban and rural areas. In responding Item-4, the students of urban area performed a bit better than the students of rural area.

Relationship among word-sentence reading and reading comprehension

Table 3: Correlation about students' performance on different items

		Matching words with pictures	Matching sentences with pictures	Reading comprehension
Matching words with pictures	Pearson correlation	1	0.333**	0.266**
	Sig. (2-tailed)	-	.000	.000
Matching sentences with pictures	Pearson correlation	0.333**	1	0.361**
	Sig. (2-tailed)	.000	-	.000

Reading comprehension	Pearson correlation	0.266**	0.361**	1
	Sig. (2-tailed)	.000	.000	-

** Correlation is significant at the 0.01 level (2-tailed).

The above table shows a moderate positive correlation (r= 0.333) between matching words with pictures and matching sentences with pictures, and a slight positive correlation (r=0.266) between the matching words with pictures and reading comprehension, which has shown a strong significant (p=0.000) relationship among them. Similarly, there was also a good positive correlation (r= 0.361) between the matching sentences with pictures and reading comprehension and it has also shown a strong significant (p=0.000) relationship between them. When the correlations fall into the range from .20 to .35 and from .35 to .65, the coefficients would be considered as slight relationship and good relationship respectively (Creswell, 2012, p.347).

Classroom scenario of teaching-learning practice

To understand the teaching-learning process in teaching reading, a total of ten classroom activities were observed. In the classroom observation, the following areas were highlighted- teachers' subject knowledge, following teachers' edition, use of teaching aids and students assessment, where data were analyzed following scales (not satisfactory=1, average=2, satisfactory=3).

Table 4: Scenario of classroom observation

	Mean	Slandered Deviation
Teachers' Preparation	1.73	0.79
Subjective Knowledge of teachers	1.45	0.82
Uses of teaching aid	1.27	0.65
Classroom Instruction	1.27	0.79
Motivating students	1.18	0.60
Appling teaching technique	0.90	0.53
Preparing a lesson plan	1.73	0.70
Appling technique to teach words	0.97	0.52
Students participate in activities	1.14	0.72
Assessing students	1.13	0.79

The above table shows the overall scenario of teaching-learning of the observed classes. It is found that the teachers had an average (1.73) preparation for conducting their classes. Besides, they were average in subject knowledge (1.45), in using related teaching aids (1.27), providing classroom instructions (1.27), motivating students (1.18) and preparing

lesson plan (1.73) in their classes. Besides, students' engagement in their classes was also average (1.14) and teachers were able to assess the students' learning average (1.13). Unfortunately, applying the teaching techniques (0.90) and vocabulary teaching techniques (0.97) by following teachers' edition were not satisfactory.

Discussion

Vocabulary, one of five essential components of reading, plays an important role in word recognition and it also acts as a getaway for developing students' comprehension skills (Learning Point Associates, 2004). According to Zahedi and Abdi (2012), *"Vocabulary plays an important role in English language skills. The greater vocabulary the students master, the better they performed their language"* (p.2264). Besides, students are supposed to read and match words with pictures correctly after completing grade three (National Curriculum and Textbook Board [NCTB], 2012). In grade four students are expected to read words, phrases, and sentences without the help of pictures. In this study, matching words with pictures, matching sentences with pictures, and a short text was used to assess the reading comprehension skill of grade four students. Students were asked to match the five different words with the given pictures. Only 22.9% were able to match the words correctly with the pictures and the result is not quite satisfactory.

Matching pictures with the given sentences is considered as a good technique to support English language learners especially the primary level students to develop vocabulary and reading comprehension skills. The scenery is even worse when it is seen that only 14.9% of students could match the five different sentences with the respective pictures. This indicates that most of the students couldn't achieve the targeted competency of grade three. That is they face difficulties to match words and sentences with pictures correctly in grade four.

Reading comprehension is a process of constructing meaning by accumulating a number of the process including word reading, word knowledge, and fluency (Klingner, Vaughn and Boardman, 2007). Comprehension is the ultimate target of reading instructions. Students have the opportunity to practice silent reading skills in grade three. It is obvious that when students have a good foundation in understanding words and sentences (Rhodes, 1922), they can understand any texts according to their age level. For grade four, learning outcome 5.1.1. defines that students will be able to read silently with understanding paragraphs, stories, and other texts (National Curriculum and Textbook Board [NCTB], 2012). To assess this competency, one simple text was used which is taken from beyond EFT

and comprises 43 words. The text is followed by five multiple-choice questions. Only 31.1% of students of class four correctly answered the five MCQs and around 4% of students couldn't choose any correct answer. Students performed poorly in answering item five which focused checking understanding level. Students' performances in answering text followed questions that reveal that they had a problem in reading with understanding. The issues behind this poor performance in reading comprehension are lack of vocabulary knowledge, poor oral language skills and negative attitudes towards reading (Mehmood, Parveen, Hashmi, Shakoor, Hussain and Ali, 2012).

Students who have a wide range of vocabulary and good at oral skills, can perform better in achieving comprehension skills. A student who can read words and sentences easily, s/he can read any graded level texts spontaneously and they do not face any difficulties to understand the meaning of texts (Learning Point Associates, 2004). This study illustrates that a good positive correlation exists between matching sentences with pictures and reading comprehension and it has also shown a strong significant relationship between them. Vedyanto (2016) also found a very good correlation in matching pictures with words which they used in a test to assess students' achievement in vocabulary.

Effective teachers know how to develop students vocabulary, sentence-level understanding and comprehension skills, and they design their teaching-learning activities including different strategies of teaching reading (Oktavia and Fitriana, 2017). This study found that teachers have not followed the teaching-learning strategies given in the teachers' edition and they also did not apply strategies of teaching vocabulary while teaching new words. As a result, students' performance was not satisfactory level in achieving reading competencies.

Conclusion

This study answered the research question administrating achievement test using different test items. In our national primary curriculum, it is expected that students are able to read words, sentences and different types of graded level texts with understanding. In this study, it was found that majority of the students were not able to perform the expected level of competency in recognizing words, reading sentences and comprehending texts. Following the inferential statistics, it could be summed up that there was a good positive correlation among the matching words, sentences with pictures and reading comprehension.

The ultimate target of learning to read is to develop students' reading comprehension skills. A classroom teacher should prepare himself

and design the classroom activities following the teachers' edition to develop the students' reading skills. Students can develop their vocabulary easily if the teacher follows the stages of vocabulary in teaching new words. When students are good at comprehension skills, they can read independently with pleasure and it opens their avenue to gather new knowledge that is written in English.

This study is expected to make a contribution to the teachers, policymakers and researchers, especially in understanding the students' performance in achieving reading competencies, which will also help them to adopt appropriate strategies to enhance the learners' reading skills.

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Acknowledgements

A Qualitative Investigation into the Nature of Practices and Challenges to Implement the New Approaches of Primary Mathematics Textbooks in Bangladesh

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Recently, mathematics textbook in Bangladesh has been modified incorporating several new approaches. To improve and assess the reformation, it is critically important to know how teachers implement the new approaches in the classroom and what the challenges they face during the classroom practices. The aim of this study is to explore the nature of practices and challenges faced by the teachers to implement the new textbooks in the classroom. This study adopts qualitative design. Data is collected through semi-structured interview of six primary school teachers as well as observation of 18 classes (3 classes of each participants) conducted by them to find out the nature of practices and the challenges they face to implement the reformed mathematics textbook in their classroom. Data are analyzed thematically. One of the findings of this study is that teachers are moderately implementing the new textbooks in the classroom. Teachers also face different types of challenges regarding the use of new textbooks in the classroom. To ensure quality education, findings of this study will be of significant use for curriculum developers, textbook experts, teacher educators, instructors of Primary Teachers Training Institutes (PTI) and the teachers who will be practicing the new textbooks in the classroom.

Keywords: New approach, nature of practice, challenge, reformed textbooks

Introduction

Curriculum is the heart of any educational system that needs to be reformed over time. Reformation of curriculum is focused on the improvement and innovation of education (SLO, 2009). It is a cyclic process of analysis, design, development, implementation, and evaluation which take place interactively. Implementation is the significant part of this reformation. Proper implementation is needed to enact the reformed curriculum in the classroom (ibid). To implement the reformed curriculum properly USA have been under taken the investigation in recent years (NCTM, 2000). Improving the educational performance Primary curriculum in Bangladesh was revised and modified in 2011 on the basis of national education policy (NCTB, 2011). New primary mathematics textbooks were designed to fulfill the aims, objectives and terminal competencies of the curriculum.Sultana & Islam (2018) showed that new primary textbook of Bangladesh appeared with some new approaches (e.g. Key question, real world connection, multi-solution, collaboration etc.).

Textbooks are the central phenomena of any educational accomplishments which offer students a wide range of experience to develop their potentiality (Chambliss & Calfee, 1998. p.7). Textbooks play an important role in conveying the content knowledge and shaping the large scale classroom activities (Roy et al., 2002). Rezat (2006) showed a didactical aspect (teacher – textbook – mathematical knowledge) where the teacher acts as a mediator to implement the new textbook in the classroom. As a mediator the teacher sometimes faces some challenges to implement the new textbookin the classroom. The study of Carless (2003) and Johanson (2006) showed that some factors hamper the proper implementation of the new approaches of the textbook. Moreover, it is a matter of concern that sometimes-new approaches of the textbook may reduce the teachers' performance in the classroom (Smith, 1999).

Purpose of the Study and Research Question

The purpose of the study is to explore how teachers implement the new approaches of mathematics textbook in their classroom. This study also aims to explore the challenges faced by the teachers to implement the new textbooks in the classroom.The study will try to find out answers to the following questions:

1. How do teachers implement the new mathematics textbook in their classroom?
2. What are the challenges teachers faced to implement the new approaches of mathematics textbook?

Literature review

Reform based curriculum usually introduces modern approaches that enhance the students' engagement in worthwhile mathematics through arrangement of processes (Anderson & Bobis, 2005). For instance, NCTM (2000) comprises a set of arrangements for new mathematics textbooks such as problem solving, reasoning and proof, communication, connections, and representations. Primary schools of the New South Wales include these approaches in their new mathematics textbooks (Board of Studies NSW [BOSNSW], 2002). As its consequence the reformation of mathematics curriculum also held in Bangladesh in 2011 (NCTB, 2016). Recently, Sultana & Islam (2018) showed that few approaches (Table 1) are incorporated in the new primary mathematics textbooks and also investigated how teachers perceived those approaches. In this study, we will explore how teachers implement these approaches in their classroom.

Table 1

Approach-1	Starting a lesson with key question/activity
Approach-2	Prior knowledge exploration
Approach-3	Mathematical connection with real life situation
Approach-4	Innovative way of problem solving
Approach-5	Collaborative way of problem solving
Approach-6	Different games & puzzles
Approach-7	Appropriate illustration and diagram
Approach-8	Multiple way of problem solving
Approach-9	Mathematical inquiry
Approach-10	Classwork

Source: Sultana & Islam (2018)

When new approaches introduced in textbooks work as intermediaries between curricular intention and implementation (Conway& Sloane, 2005). Teachers implement the new mathematics textbook to obtain the goal of curriculum and they are also concerned about the approaches used in the new textbook (Edenfield, 2010). Jordan and Padilla (1999) found that new approaches of the textbooks helped teachers make significant changes in their practice. NCTM (2000) also suggested implementing the new approaches in the classroom teaching-learning process which helps the students' develop mathematical thinking. It was also found that implementations of the new textbook in the classroom practices vary from teacher to teacher (Rezat, 2009).

Different researches show that some aspects act as factors or challenges to implement the reform oriented mathematics textbook in the classroom. The implementation of reform-oriented mathematics textbooks is being interrupted due to teachers' knowledge, own belief system and attitude towards textbook (Johansson, 2006). Besides, Carless (2003) considered six factors (attitudes, understandings, time, textbook, preparation & pupils' language proficiency) to implement a textbook in the classroom. To understand the use of textbook it is necessary to know the nature of practices, challenges and relation between them within and across the subject (Sosniak & Todolsky, 1993).

Methodology

Two research questions of this study dealt with the nature of practices and challenges which are two central phenomena of this study regarding the use of new approaches of mathematics textbooks in the classroom. To explore these two central phenomena a qualitative research was needed as Creswell (2012) asserted that qualitative research is the most suitable way for exploring and developing a detailed understanding of a central phenomenon. Data is collected from interviewing six participants and observing three classes of each of the participants. Through semi-structured interview it was tried to find out how they apply the new approaches in the classroom and what sort of challenges they face to do that. Besides, to get clearer picture 18 classes were observed. The collected data were analyzed thematically. Thematic analysis is a method for identifying and analyzing patterns of meaning/themes in qualitative data (Clarke & Braun, 2014). Thematic analysis involves a search for themes that emerge as being important to the description of phenomenon. The participants of this study were obliged to issues of anonymity and ensured them that their name would be kept anonymous as this process requires a sufficient level of trust based on a high level of participant disclosure. To ensure their anonymity, a symbolic item was used instead of their name (six teachers were treated as T1, T2, T3, T4, T5 & T6).

Result and discussion

Nature of practices

The analysis of the data shows that all teachers (T1, T2, T3, T4, T5 & T6) use approaches-1 and 2 in their mathematics classes. During the observation of their classes, it is seen that in most of the cases, teachers started their classes with activity whereas sometimes they throw key question to engage the students. It is also observed that in all observed classes, teachers tried to explore students' prior knowledge (approach-2)

about the related topic. During interviewing, four teachers (T1, T2, T4& T6) expressed that connecting mathematical concept with real life situation (approach-3) is very important and they often use this approach in their classroom, but during the observation of their classes it is found that only one of them (T1) used this approach in two of his observed classes. It is also found that in one class teacher (T2) used this approach partially, she claimed -

> *There are many problems in the new textbook. If I provide every problem by connecting with real life situation, I couldn't complete the course in time. But I have to complete the course in time. That's why at the beginning of the lesson I provided the mathematical concept by connecting with real life situation.*

The analysis shows that all teachers (T1, T2, T3, T4,T5 & T6)expressed that they used innovative ways to solve problem (approach-4) in their class which is provided in the new mathematics textbook. Their voice also reflected in their observed classes. It is found that all the observed classes (except two) they used this approach. The analysis reveals that all teachers (T1, T2, T3, T4, T5 & T6) used collaborative approach (approach-5) to solve the problems in their classroom practice. It is observed that more than half of the classes (11), teachers adopted students' opinion, called few of the students to the board and provided group work to solve the problems as a part of collaborative work. Rest of the class (7), teachers used it as partially.

All the six teachers (T1, T2, T3, T4, T5 & T6) stated that every lesson in the new textbook has partial scope to use different games & puzzles (approach-6) and sometimes they use this approach in their classroom, but during the lesson observation, it is found that all the teachers do not use this approach at all. One of the interviewee claimed- "*In the classes you observed it was not needed to apply this approach. But when it is needed I apply this approach in my class*" (T1).

It is found that all the teachers emphasized appropriate illustrations and diagrams (approach-7) for practicing problem and in all classes (except two) they used this approach. It is also seen that in half of the classes (9), this approach was used properly whereas in seven of the classes, it was used partially. One of the teachers claimed- "*If the students understand a picture or diagram to the related problem, I think there is no need to waste more time to use another picture or diagram to solve the problems*" (T6).

One of the teachers (T1) conducted multiple ways of problem solving (approach-8) in one of his classes. But the rest of the teachers didn't apply this approach to solve the problems. In the continuation of interview

one of them claimed – "*There is no need to apply multiple ways of problem solving in the classroom practice. Students' will learn the multiple solutions of a problem automatically in course of time. In my classroom practice I didn't apply this approach*" (T6).

Outcome from interview:

	T1	T2	T3	T4	T5	T6
Approach-1	√	√	√	√	√	√
Approach-2	√	√	√	√	√	√
Approach-3	√	√		√		√
Approach-4	√	√	√	√	√	√
Approach-5	√	√	√	√	√	√
Approach-6	√	√	√	√	√	√
Approach-7	√	√	√	√	√	√
Approach-8	√					
Approach-9		√		√		√
Approach-10	√	√	√	√	√	√

Outcome from class observation:

	T1			T2			T3			T4			T5			T6		
	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3
1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
3	√	√		√														
4	√	√	√	√		√		√	√	√	√	√		√	√	√	√	√
5	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√
6																		
7	√	√	√	√	√	√	√	√		√	√	√	√	√		√	√	√
8	√																	
9																		
10	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

The obtained data indicates that teachers didn't use mathematical inquiry (approach-9) to solve the problems at all. At the time of interview, all of the teachers stated that they have the idea about the mathematical inquiry process, but the analysis shows that only one teacher (T1) has the knowledge about the mathematical inquiry process. He claimed "*In my class I could use the mathematical inquiry process to solve the problems, but it was not used for being unhabituated in this process*"(T4).

The analysis shows that teachers are always conducting their mathematics class by practicing classwork (approach-10) at the end of every lesson. In this case there is no difference between their responses and practices.

Challenges faced

All the six teachers claimed that shorter class duration and large class size are big challenges for them to apply the approaches which is adopted in the new textbook. All the teachers mentioned that implementing the new textbook is much time consuming. Due to the shorter class duration, they couldn't apply properly the new approaches of mathematics textbooks in the classroom. They also said that large class-size causes many obstacles that hinder optimal teaching and learning.

Challenge faced by the teachers:

Challenges	T1	T2	T3	T4	T5	T6
Shorter class duration	√	√	√	√	√	√
Large class size	√	√	√	√	√	√
Students' different level of understanding	√	√	√	√	√	√
Students' unwillingness to active participation			√	√	√	√
Lack of training	√	√	√	√	√	√
Students' disrupting behavior due to the picture and symbolic character	√	√		√		√
Lack of appropriate teaching aids	√	√	√		√	
Lack of adequate information	√	√	√	√	√	√
Mindset of senior teachers		√	√		√	

Teachers pointed out that implementation of the new approaches of mathematics textbooks in a large class size is really challenging. One of the teachers claimed-*"……. it is really not easy to handle 50-55 students in the classrooms and…. to come up with an effective implementation of the new approaches" (T3).*

Students' different level of understanding acts as a factor to implement the new approaches of mathematics textbooks. All the teachers reported that advanced learners got the meaning of the content easily, but slow learners didn't do so. They added that sometimes problems need to be redone. They also claimed that often it was needed to provide them content related basic idea which hampers the class duration. One of the teachers stated –*"….new textbook becomes sometimes heavy for the weaker students. …. Sometimes I need to spend enough time to make the concept clear to all students" (T4).*

Four teachers (T3, T4, T5 & T6) stated that they sometimes face challenges to implement the new textbook as sometimes students are unwilling to participate actively. They also mentioned that, during the class session they make noise and don't show their eagerness in the lesson. One of them claimed – *"sometimes students did not get interest and not willing to participate in the classroom actively. I think…. may be the topic seems to be very hard for them" (T3).*

The analysis shows that lack of proper training is a big challenge for implementing new textbook in the mathematics classroom. All the teachers narrated that they had no training on the new textbooks. For this reason, they didn't apply the new textbook successfully. Some aspects of the topics provided in the new textbooks are unknown to them. One of the teachers stated – *"it would be helpful for them to implement the new textbooks in the classroom if they have provided training on the new textbooks" (T2).*

The diagram and symbolic character present in the new textbook sometimes make a challenge for the teachers. Most of the teachers stated that students raised different questions about the names (Reza & Meena) and illustrations provided in the textbooks. One of the teachers claimed - *....sometimes when I asked a student, suppose you are Meena or Reza, then she/he said I am not Meena/Reza, I am Sabina/Dipok(T6).*

He also stated that students sometimes raised questions about the provided illustrations and diagram in the textbooks. Such as; *why this picture/diagram is used? Why didn't use another one?* These types of questions hamper the classroom teaching-learning processes.

The analysis shows that four teachers (T1,T2, T3 &T5) faced challenges to implement the new textbooks due to lack of appropriate teaching aids. They expressed that sometimes it is challenging to implement the new textbooks in the classroom due to lack of appropriate teaching aids. One of the teachers stated- *"It is needed to use teaching aids according to the demand of the content. But we didn't use the content related teaching aids because there is no availability to use the teaching aids in the schools" (T5).*

All the teachers pointed out that there is no discussion at the beginning of the lesson about the chapter which is a great drawback of new mathematics textbooks. They claimed that due to lack of appropriate information, inadequate emphasis of prior knowledge, lack of real life-oriented example and lack of multiple solutions of a problem, they faced challenge.

Three teachers (T2, T3 & T5) stated that senior teacher's mindset sometimes hinders them to apply the approaches of the new textbooks. They claimed that when they apply the new approaches of the textbooks in the classroom, senior teachers suggested them to follow the previous textbooks. For instance- *"I am not allowed to apply the new way of problem solving that is provided in the new textbooks in my classroom because senior teachers are familiar with the traditional method" (T3).*

So, barriers faced by the teachers affect their practices to implement the approaches of the new mathematics textbooks.

Discussion and Implications

This study found that in practice, teachers are always conducting the mathematics class by starting a lesson with key question or activity (approach -1). They do this approach to engage students in the classroom. Besides, they are concerned about exploring students' prior knowledge (approach-2); they did this approach on regular basis in their classroom to relate students' prior knowledge with the lesson. It is also found that all the teachers involve students in different sorts of collaborative activities (approach-5). To evaluate the students' progress, all the teachers think that classwork (approach-10) is the most effective one. As such, they practice this approach in each and every class. These findings indicate that teachers are concerned about the aspects 'how to start a lesson', 'how to explore prior knowledge', 'how to use collaborative approach' and 'how to practice classwork' to solve problems and practiced those approaches in their classroom which was one of the major goals for revising the mathematics textbooks. The findings of this study confirm the existing research of Edenfield (2010) where he stated that teachers implement the new mathematics textbook to obtain the goal of curriculum and they are also concerned about the approaches used in the new textbook in the classroom practices.

This study also reveals that teachers use innovative techniques to solve problem (approach-4) and use different diagrams with proper illustrations (approach-4). The new textbook has provided a great scope to apply these two approaches in the classroom and teachers justified it. Though all teachers agreed with the importance of these approaches but all of them did not practice these approaches regularly. Their opinion is varying regarding the practice of these approaches regularly. This finding confirms findings of the research study of Rezat (2009), where he stated that use of the approaches of the textbook in the classroom practices vary from teacher to teacher.

It is found that in practice, teachers teaching the lesson by connecting it with real life situation (approach-3) is very rare. Teachers did not do these approaches properly and only two teachers did.

T1 & T2 applied these approaches in few classes. Though the new mathematics textbooks provide an adequate scope to employ this approach, all the teachers did not utilize it properly.

While all teachers claimed that the new textbook provides a scope to solve problems by doing different kinds of games and puzzles (approach-6), by approaching in multiple ways (approach-8) and by applying inquiry approach (approach-9) and they apply these approaches in their classroom,

but surprisingly, none of the classes, teachers practiced these approaches. It is found that all the teachers practice problem only one way. This study is consistent with the study of Bingolbali (2011) where he showed that majority of the teachers practice single solution of a problem in their classroom.

As a whole, the findings of this study imply that teachers are not fully concerned about the approaches used in the new textbooks. While some of the approaches they use frequently, some of the approaches are rarely practiced in the classroom. The findings of the study also reveal that teachers faced different kinds of challenges which constrained them to implement the new textbook properly. Conforming to the earlier study of Harmer (2005) where he stated that large class-size brings difficulties to both teachers and students and the process of teaching and learning sessions, the study finds that teachers could not properly apply the approaches in the classroom due to huge number of students in the classroom. Not only the large class-size, but also students' different level of understanding and limited class duration are big challenges for the teacher which is consistent with the study of Carless (2003) where he reported that students' different level of understanding and allocated time for mathematics classes act as a factor to implement the new approaches of mathematics textbooks. The study implies that the model character adopted in the new textbook, sometimes hamper class environment, and divert students' attention from the lesson. One of the reasons of these would be the unfamiliarity of new textbook to both students and teacher. The study also shows that teachers often face challenges due to lack of appropriate teaching aids, adequate information and effective training which are necessary to implement new textbook properly. This finding is congruent to the earlier study by Pia (2015), where she stated that lack of training of the teachers, lack of appropriate teaching aids and lack of sufficient information in the mathematics textbook act as a barrier in mathematics teaching. Conforming to the earlier study of Chang & Hsu (2017) the finding of the study also reveals sometimes teachers face problems due to the interference of the senior teachers' traditional mindset. As such, lack of proper implementation of the approaches of new textbook in the real context would be a barrier to obtain the goal of curriculum.

The findings of this study have some practical implications for the curriculum developers, textbook writers, teacher educator, PTI instructors, and teachers. As in the new curriculum, there is no instruction about the problem-solving strategy and mathematical inquiry. It is therefore needed to include mathematical inquiry and problem solving strategy (e.g. Polya's problem solving strategy, Krulick strategy) in the new curriculum. Besides,

textbook writers may consider some aspects which was raised by the teachers in this study. Some of the teachers claimed that the new textbooks have lack of information (e.g. lack of real life oriented example, lack of multiple solution of a problem). It will also be helpful for the textbooks writers in which aspects on the new textbooks they need to pay more attention. This study also found that teachers are not fully concerned about the new approaches of the mathematics textbooks. It is therefore needed to take proper steps to increase teachers concern level and provide them subject-based training. The findings of this study will be helpful for the teacher, educator and PTI instructor in which aspect they will pay their attention during the training programme.

Conclusion

This study explores how the new primary textbooks are practiced by the teachers and what challenges they face to implement the new textbooks in the classroom. Through this study we have found that classroom practices of the new textbooks vary from teacher to teacher. All the teachers argued that they apply all the ten approaches in the classroom, but the reflection of their voice is not seen in practice. Due to different sorts of challenges, they could not properly apply the approaches in the classroom. To ensure the proper utilization of new mathematics textbooks, it is necessary to make the teachers concerned about the new approaches of mathematics textbooks. As lack of proper implementation of the new approaches may reduce the effectiveness of the subject matter, it is needed to provide appropriate training to the teachers on the new approaches of mathematics textbooks

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Prospects and Challenges of Engaging Elderly People in Government Primary Schools of Bangladesh: A Qualitative Study on Intergenerational Education Model

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It has been predicted that within 35 years, the number of elderly people in Bangladesh will increase by approximately 20%, growing at a rate of 2.2% per year compared to a growth rate of 0.5% among working people. By considering how this large population can participate both socially and economically, this qualitative (basic interpretive) study explores the intergenerational education program concept in the primary education sector of Bangladesh. We find that under the intergenerational education program, the elderly population can be involved in schools, both formally and non-formally. For example, they can teach lessons along with the teachers, share experiences in connection with the curriculum content, guide children on different occasions in schools, visit students' homes to advise the children on daily food and hygiene habits, help vulnerable and slow learners, etc. However, the study also points to two challenges: a technical challenge—finding skilled elderly people to play these roles, and a socio-psycho-political challenge—the public mindset about the role of schools, teachers, and elderly people.

Keywords: Elderly People, Government Primary School, Intergenerational Education Model

Introduction and conceptual basis

Population aging is a natural phenomenon and almost everyone will ultimately have the experience of being an elder person. Although the term "elderly person" refers to the chronological biological age of a person (Aiken, 1995), in social life being "elderly" is synonymous with being a "dependent person" (UN, 2005). Strong evidence of this social meaning is found in internationally agreed equations for measuring the dependency ratio of a country or a place. In this framing, elderly people are seen as burdens, drains, and useless to society (Chavez, 2015).

In Bangladesh, Streatfield & Karar (2008) warn that in near future the elderly population growth rate will be 2.2% per annum, whereas the population growth rate of working people will be only 0.5% per annum. Economic degradation, labor scarcity, and social dilapidation may arise on account of the country's high dependency ratio. Santacreu (2016) states: "A decrease in the labor force and an increase in the elderly population could slow economic growth" (p. 1). Contributing to economic degradation, Pattinger (2012) notes that the government will have less tax revenue, higher spending rates, a declining working population, lower pension funds, etc. To reverse this phenomenon, many European countries are rethinking working age limits and undertaking a variety of initiatives to encourage European employers to work towards higher labor market participation and productivity growth among Europe's older workers (Ingham, Chirijevskis, & Carmichael, 2009).

In 2002, the WHO coined the term "active aging," which refers to …a process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age. The word "active" refers to continuing participation in social, economic, cultural, spiritual and civic affairs, not just the ability to be physically active or to participate in the labor force. Older people who retire from work, who are ill or live with disabilities can remain active contributors to their families, peers, communities and nations. Active ageing aims to extend healthy life expectancy and quality of life for all people as they age. (WHO, 2002)

In this study, we apply the perspective of active aging to intergenerational education. We consider how to mobilize this large population to put their knowledge and experience to use, ensuring that they have something important to do in their old age and contributing to their quality of life.

Intergenerational programs are those in which different generations work together. In education, this means children and older people participate in the same education program (Park, 2015). In the mid-1960s,

gerontologists, psychologists, educators, and specialists in human development observed an increase of age-segregated communities and a decrease in consistent and frequent interactions among younger and older members of families, with outcomes affecting the lives of elderly people and children (Newman, 1989). In 1963, the US took the first step towards intergenerational programming through a project called the Foster Grandparents Program. Under this program, elderly people over the age of 60 were partnered with special needs children. According to Kandal (2016), this program had two major purposes: to eliminate the loneliness of elderly people and to provide one-on-one support to special need students. Following this project, many intergenerational programs were initiated. The first intergenerational program that directly involved the school system was implemented in 1975 by the US Office of Education and the US Office of Administration of Aging.

Today, many schools and organizations are trying to bring elderly people into the education sector, with various benefits. In schools with intergenerational programming, children have extra guidance and elderly people have increased emotional satisfaction (Parker, 2016). The programs benefit children's social development (Neilson, ND) and their behavior improves (Angelis & Watson, 1994). Children have the opportunity to learn traditional cultures and histories (Razavi, 2016), and elderly people seem to take less medicine when they are interacting with children (Hammer, 2012). These programs help elderly people to feel that they are a part of the community (Campbell, 2007). They also foster multimodal literacy for children and elderly people and encourage new ways of seeing oneself and the world (Heydon, 2013).

In the context of Bangladesh, no significant academic research has been undertaken on intergenerational education. Thus, this paper aims to explore the prospects and challenges of integrating elderly people into the programming of government primary schools in Bangladesh.

Literature Review

Misconceptions about the aging population

Prejudice about aging contributes to the vulnerability of elderly people and creates dissatisfaction about old age life among younger generations. According to Australia's Department of Communities, Child Safety, and Disability Services, elderly people endure stereotypes, e.g., all old people are unwell (Lyons, 2009), disabilities, memory loss and senility come with age (Lyons, 2009; Ritsatakis, 2008; Cirillo, 2016), older people are an economic burden for society, older people do not contribute, older people are lonely and will gradually withdraw from society (Lyons, 2009;

Cirillo, 2016), mature age workers are slower and less productive than younger workers, etc. Elderly people have proven that these stereotypes are misconceptions. In an experimental study, researchers found that, with parallel memory performances, older people made better decisions than younger adults.(Lechuga et al., 2012). Furthermore, the Department of Communities, Child Safety and Disability Services declared that the majority of older people remain physically fit well into later life, carrying out the tasks of daily living and playing an active part in community life (2012). Moreover, their intellect and creativity are maintained into old age, and they contribute to families and communities. Elderly people are interested in learning new things. They are socially organized, and in the workplace they are committed to quality, have lower rates of job turnover, less absenteeism, and fewer accidents than younger workers, and they are strongly motivated to succeed. It has been also found that people tend to be more productive and develop expertise in scholarly knowledge as they age (Akin, 1995).

Intergenerational education programs

In connection with these disproven misconceptions, many functional philosophers are now thinking about how to use the vast stores of knowledge of the old generation. Angelis and Watson (1994) describes the efficiency of older people of our society:

> Older adults possess what many young people lack: history, patience, and a deep knowledge of the human struggle. At a time when flexibility and the ability to change are essential skills for entry into the economy, senior citizens can show the way. They were born in an age in which mobility, poverty, and other forces have severed family ties, older adults are a living link with the past. (p. 32)

Education philosophers have proposed the idea of intergenerational programs in the education, sector whereby old people are connected to schools or learning centers to help teach children different topics (Parkins, 2014). There are many institutional intergenerational education models in which older people play the role of facilitator to help children learn about their surroundings and develop their academic competencies. Chavez (2015) suggests including older people in elementary school programs to teach students the history and traditions of the community. Rowntree (2005) emphasizes involving older people in teaching students how to grow vegetables. Parker (2016) suggests engaging older people to help vulnerable children succeed. Neilson (ND) suggests specific intergenerational education projects—e.g., '[a] joint activity house for children and older people,' curricula focused on 'health and foods,' and discussions on '[n]orms - past and present'—where elderly people volunteer to support a

teacher on different theme-based topics. Additionally, Chan (2009) shares the 'classroom in community' concept, where student learn from the community, for the community, and through the community, with older people as a major source of teaching and care-taking in the process. Campbell (2007) suggests that older people can have lunch in schools, using the time to teach students about local history, British identity, and values such as patience, hard work, and anti-social behavior. They can also give one-to-one tuition in literacy and numeracy and teach cookery skills and gardening. Hammer (2012) recommends establishing kindergarten in senior rooms. Heydon (2013) discusses establishing shared-site projects for intergenerational programs, and Razavi (2016) suggests establishing intergenerational learning centers where children and the older residents come together for music, dance, art, and storytelling. However, Ravazi (2016) points out that "[s]chools and youth groups have limited time, rigid mindset and resources, so it can be difficult to set up ongoing schemes. The more we can raise awareness, the more work of this sort we can do."

Many studies show the benefits of intergenerational programs in schools or learning centers. Parker (2016) states: "Bringing together the older people and youth or children benefits the both sides. Children may have the kind attention and monitoring which they lack and older people have the emotional satisfaction by helping the others." Furthermore, intergenerational programs benefit the older generation. Jansen (2016) points to decreased rates of loneliness, delayed <u>mental decline</u>, lower blood pressure, and reduced risk of disease and death, and increases in the amount of smiling and conversation among older adults in his study. Along with the benefits for both of children and older adults, intergenerational programs can also benefit the community. The cost of intergenerational programs is very low in terms of service benefit. Madson, an activist, raised over $2,200 to cover the cost of her community's intergenerational education program. Most of the budget went toward transportation and supplies for the off-site classroom (Hammer, 2012). In contrast, Heydon (2013) warns that, because of a lack of knowledge and experience about intergenerational programs, starting such programs is quite challenging, even in the western world.

In Bangladesh, while no direct literature has been found on the intergenerational programs and the involvement of elderly people in government schools, Mamun and Abdullah (2015) point out that in School Management Committees (SMCs), elderly people are members. However, no particular regulations have been implemented in Bangladesh SMC formation guidelines to make the participation of elderly people in schools mandatory. Moreover, to help to improve in English and Mathematics, the Secondary Education Quality and Access Enhancement Project (SEQAEP)

targeted the hiring of retired teachers as Resource Teachers (World Bank, 2013).

Concept Model of Intergenerational Education

Based on the literature on intergenerational education programs, we have developed a concept model. The diagram in Figure 2.1 displays the entities that would need to be involved in setting up an intergenerational program.

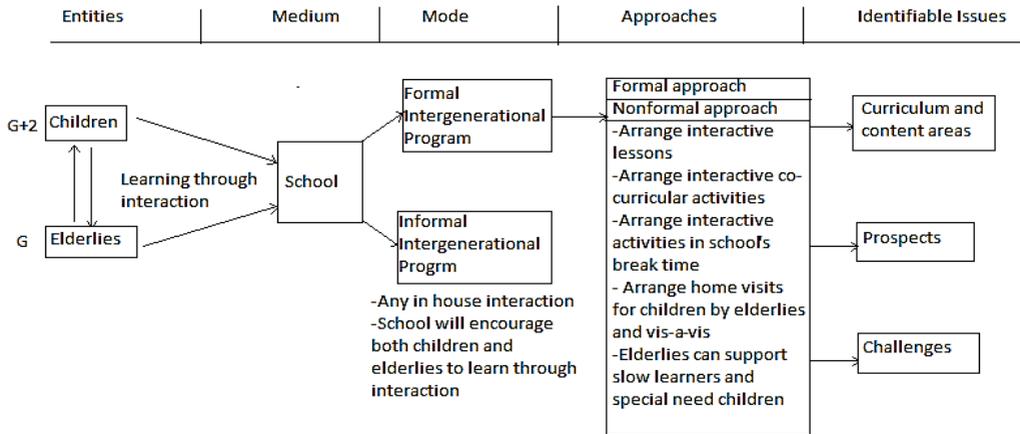| Entities	Medium	Mode	Approaches	Identifiable Issues

Figure 1: Concept model for an intergenerational education program

In figure 2.1, we show that the children and the elderly people are the basic entities for the intergenerational education program. Through an interactive environment, they both learn from each other. However, schools as a medium can play a distinctive role in generating intergenerational education by emphasizing on both formal and informal modes of teaching and learning. The formal elements of the program refer to a formal setting for interactive lessons for both entities. The informal elements emphasize in-house activities, where the grandparents and grandchildren live together. Though schools have less to do with the informal, in-house environment, as schools by nature are a formal institutes, schools can encourage children by teaching them the social and moral value of interacting with elderly people. In addition, in the formal setting schools can take both formal and informal approaches. Formal approaches can include arranging interactive lessons and co-curricular activities involving both children and elderly people, involving elderly people in school brake time, and assigning elderly people to work with slow learners and special needs children one-on-one. Visiting children's homes and visiting elderly people is an non-formal approach that a school can enable with time flexibility and places. The curriculum and teaching content should be adapted according to the approach that a school

takes. Thus, schools should modify teaching instructions and consider the prospects and challenges of intergenerational programming before implementation.

Study methodology

We conduct this study using qualitative methods to explore how and why to connect elderly people with primary schools in Bangladesh through an intergenerational education model, and the barriers to implementing this kind of program. Among the qualitative approaches, this study mostly relies on basic interpretive qualitative research, whereby the researcher seeks to understand how the research participants make meaning of a situation or a concept (Marriam, 2002). In this study, we wanted to understand the concept of "intergenerational education program" in the context of government primary schools in Bangladesh. To get the necessary data, we focused on purposive sampling. Participants in this study included 10 specialists (former professors, professors and associate professors from the University of Dhaka and Jagannath University, Deputy Directors for the Directorate of Primary Education, and a head teacher of a government primary school), drawing on expertise from the fields of sociology, social science education, education, demography, economics, inclusive education, and policy. To maintain the confidentiality of data, we refer to respondents' academic identity rather than their real name. We included a limited number of participants to make the research feasible within a short timeframe (Braun & Clarke, 2013). An open-ended interview schedule (with an interview guide) was used to collect the data. To analyze the data, the researcher followed the thematic coding procedure as per Bogdan & Biklen (2003), as this approach is flexible, provides a means of summarizing key features of large amounts of data, and can be used with virtually all types of qualitative data (Robson, 2011).

Analysis and interpretation

Scope of involvement of elderly people in government primary schools

The respondents of this study had different approaches and understandings of the scope of involving elderly people in government primary schools. They shared thoughts on various criteria required before thinking about the scope. The sub-themes under scope of involvement are discussed below.

Approaches to engage elderly people in government primary school

The respondents shared two major approaches to integrating elderly people into government primary schools: the formal approach and the non-formal approach. The formal approach requires the direct involvement of

elderly people in the classroom. The head of the school and the policy contributor shared same views on formal approaches. The policy contributor said, "We can involve them in schools to look after the slow learners. Educated elderly people can teach them in extra coaching classes for their improvement." Other respondents agreed with this view, but with slight differences. They suggested involving elderly people in the classrooms and focusing their attention on book content. According to these respondents, elderly people should be invited into the classroom based on their capacity to contribute to a particular lesson—to share their experiences with the students on that particular topic. The education specialist added:

> The elderlies can be included in the whole teaching-learning process through curriculum. The contents which are supposed to teach with the help of elderlies' experience should have instruction in the curriculum. If we can do this then the concept will work.

Another formal approach was found from the economist's view. The economist suggested including elderly people when the schools have a shortage of teachers. He added that this concept might be a source of income for many educated elderlies.

As a non-formal approach, the respondents suggested engaging elderly people outside the classroom, in the community. The policy contributor suggested:

> Elderly people can also be invited into the school once in a month or once in two or three months to share their experiences and knowledge with the children. Different type of retired professional or working groups can be invited and asked to share their view with the children by arranging a program. Ex-policeman can share their experiences and teach rules, regulation and discipline as well as the farmers can be invited to share their experiences about harvesting process.

Similarly, the social science education specialist suggested arranging a special day for grandparents, similar to 'parents day.' On that day, the elderly people can come and observe the school activities and the schools can arrange a program to make them feel that they are as special as parents. This respondent also suggested that elderly people who are physically fit should participate in home visits to share health and hygiene information with community children. Those who are unable to move or are physically weak should get involved in writing about their knowledge of the history or culture of the community.

In sum, elderly people can be engaged in primary schools in both formal and non-formal ways. As formal approach, elderly people can engage in the classroom with slow learners, can play a role as a live

resource for book-learning content, and they can serve as a teacher's assistant when there is a shortage of teachers. However, curricula must be developed and implemented before involving elderly people in schools. As a non-formal approach, elderly people can gather on a special grandparents day to share their experiences and listen to the new generations. Moreover, visiting children and contributing to the community's cultural history are also identified as non-formal approaches of intergenerational programming possible in the primary schools of Bangladesh.

Content in which elderly people can be involved

The study respondents shared thoughts about the scope of educational content that would be suitable for elderly people to contribute to, focusing on four knowledge areas: the agricultural sector, ethics and morality, history and culture, and health, nutrition, and hygiene. Since agriculture is not typically covered at the primary level, most of the respondents highlighted this area for the secondary level. Respondents suggested that elderly people can be invited into the classroom and asked to share their knowledge on agriculture during the time of the year when students are learning agriculture-related topics. A focus on agriculture is important, as in most rural areas of Bangladesh almost everyone is involved in agricultural work to some degree. The demographer, the education specialist, the inclusive education specialist, and the policy specialist also emphasized involving elderly people in schools at the time of agriculture education. The demographer shared:

> Elderly people can share their experiences about harvesting system and supervise the practical classes of children. It would be better if real experiences can be provided in the classroom rather than only book knowledge. These elderly people are more knowledgeable than teachers as they have more then 30-35 years of experiences.

In terms of history and cultural knowledge, considering the elderly people as a bridge across generations, the respondents suggested involving them in the classroom in the same ways as they would be involved in teaching agriculture. Respondents shared that the elderly people of the community are enriched in culture. They possess two generations of culture, and their language is rich. Likewise, respondents suggested involving elderly people in ethics and morality education in primary schools. The social science education specialist shared:

> There are specially two types of values. These are functional value and classical value. The functional values are always changing but the classical values remain same for long period of time. So if we can include elderly people in the classroom then they can contribute to the classical values which are very important for the new generation.

Another knowledge area identified by both the policy contributor and the policy specialist is health, food, and nutrition. The policy specialist shared that elderly people can be a great source of rare knowledge on healing. The policy contributor suggested that elderly women could visit students' homes in rural areas or arrange small courtyard meetings on the issues like healthy food, nutrition, and health in their own way. The demographer also suggested involving them in cleanliness, hygiene, child health, and student health topics in the classroom.

In brief, within formal and non-formal approaches, the respondents highlighted four content areas that are broadly divided into two disciplines: social science (history and culture, ethics and morality) and applied science (agriculture and health and hygiene).

Criteria for involvement

The respondents shared some specific criteria that would have to be met before involving elderly persons in schools. These criteria can be divided in two major areas: criteria for elderly persons and criteria for the process of involving the elderly persons. In the criteria for elderly persons, most respondents emphasized selecting compatible elderly people. The sociologist suggested selecting middle class to upper class elderly people, and that they should have their basic needs fulfilled as a pre-requisite for participation. The head of the government primary school added: "The elderly people should have the quality to teach the students and they also should have the training on teaching learning process." Along with the criteria about what type of elderly people should be involved in the schools, the respondents also shed light on the criteria for the process of involvement. The social science education specialist suggested:

> For involving the elderly people in the schools we need some specific objectives. The number for elderlies for each school and for each academic year should also be specified. Moreover, there should be some criteria to measure the social and economic need of this concept.

Similarly, the education specialist asked for a diagram or a particular plan for involving elderly people, identifying how many elderly people a school needs, when the school needs them, how the school will use their knowledge and experience, and with which content the elderlies can be merged. The demographer also asked for a systematic plan for the selection process to identify the best elderly people for the school.

To sum up, the respondents asked for compatible, educated, experienced middle to upper income status elderly participants. The criteria for involving the elderly people focused on specific objectives followed by

specific strategies for the proper use of the intergenerational program in primary schools.

Prospects for the involvement of elderly people in government primary schools

The concept of involving elderly people in government primary schools comes from the perspective that schools, children, and the elderly people of the community will benefit. In considering the benefits of the concept for the children, most of the respondents focused on the transmission of history and culture from one generation to the next and minimizing the generation gap. According to the respondents, intergenerational education will help children learn about their culture and the history of Bangladesh. Respondents also focused on the transmission of values. The respondents were concerned about the degradation of values in present times. According to them, lessons on values form the elderly generation might bring about change among children.

In addition to the benefits for children, the respondents pointed out that there are benefits for the elderly people. These benefits were seen from the perspective of social engagement, mental support, active participation, and economics. Most of the respondents shared that intergenerational education can create a new way for the elderly to become active participants in society. The demographer shared:

> The elderly persons after their retirement can still be physically and psychologically active through this initiative. Moreover, it has been seen that, after retirement the elderly people sometimes suffer for alienation, but this concept will keep no place for this type of issue for elderly group. They will think that they are still important for the society, there is someone to listen them, and there is place where they can contribute.

The economist and the sociologist focused on the economic benefits for elderly people. If there is any payment attached to their role, then the elderly people will no longer feel that they are a burden to their family. They can also contribute to the country's GDP. Additionally, the education specialist and the inclusive education specialist shared that, through this process, elderly people can get relief from minor non-communicable diseases and can use their leisure time.

Furthermore, although the respondents did not said much about community or social effects of intergenerational education, some pointed to the potential for the growth of social responsibility among children as social benefit.

Challenges of involving elderly people in schools

The respondents to this study predicted some challenges associated with intergenerational education. The most common challenge identified was "the mindset," i.e., the social mindset associated with what school activities should look like, who can serve as a teacher, and the activities appropriate for elderly people in society. The policy specialist said that parents might not respond well to the integration of elderly people into schools. The mindset of elderly people was also considered a challenge. Respondent shared that the elderly might think that they are no longer able to contribute to society, or some may not like to work actively within schools.

In addition to social mindsets, physical problems of elderly people would be a great challenge. Most of the respondents were concerned about the health conditions of the elderly people, as by nature at this age many are affected by non-communicable and communicable diseases. The respondents also said that identifying perfect contributors for lessons might be difficult. The sociologist stated, 'Yes! Elderly can teach values in schools. But whom do you think is perfect for this job. There is not a single person in the society who have perfect value in all matter.' Similarly, the education specialist was also concerned about political pressure and nepotism in selecting elderly people for formal and non-formal approaches: "One of the challenges might be the political pressure to choose the specific elderly for the schools, if there is any kind of connection with money. Moreover, responsible authority or the administrative body could choose people as per their desire."

Discussion and conclusion

Although this study focuses on government primary schools, the respondents preferred to relate the concept of 'intergenerational education programs' to both primary and secondary schools. The proposed approaches for this concept in the context of Bangladesh include formal and non-formal education, which are similar to successful intergenerational education projects in the West. The concept for Bangladesh resembles elements highlighted in Chavez (2015) (elderly people teaching elementary school students), Rowntree (2005) (older people teaching students how to grow vegetables), and Parker (2016) (older people helping vulnerable children). Similarities were also found in the content selection for this concept. Agricultural education, ethics and morality education, history and culture education, and health, nutrition, and hygiene education are prioritized, similar to the areas highlighted in other literature (Chavez, 2015; Rowntree, 2005; Neilson, ND; Campbell, 2007).

Intergenerational education is shown to benefit the child, the elderly, schools, and society. This concept is a winning strategy for all stakeholders. This study finds that the concept can generate greater social benefit than economic benefit. The concept of integrating elderly people into schools will help children learn from their practical experience. With intergenerational education, the new generation of Bangladesh will have the scope of knowing our culture, values, and history, get future direction, and experience the love of elderly people in their schools. Similarly, Parker (2016) states: "Bringing together the older people and youth or children benefits the both sides. Children may have the kind attention and monitoring which they lack and older people have the emotional satisfaction by helping others." Children will also have an improved patterns of social and personal development. With intergenerational education, their behavior improves, they approach their studies with greater enthusiasm, and they become more confident in themselves as learners. Importantly, intergenerational education is more about the value of interaction and socialization than learning traditional things (Razavi, 2016). We find that the schools and the community will indirectly benefit from this approach. Although the benefits will be indirect, the respondents believe that such an approach to education will benefit schools and communities in the long run.

Additionally, the participation of elderly people in schools will come with vast benefits for them, bringing about socio-psychological and physical advantages for elderly participants. This study shows that involvement in schools will help the elderly to get a source of income, have place to spend quality time, have opportunities for social engagement and mental support, and feel less like a burden for their family and society. The social psychological benefits will make the elderly active participants, and society will directly benefit, in line with the WHO's "active aging" concept. Crockett and Press (1981, as cited in Power, 1992) argues that older people become dependent and suffer from depression and the fear of death. They become grouchy, passive, and childish. This study directly contradicts the concept of 'elderly as dependent,' providing an alternate portrait of elderly people. Similar thought were found in Esther (2013), who argues: "One of the obvious limitations of dependency ratios is the assumption that people under 15 years and over 65 years (65+) are outside of the labor force, as well as the assumption that those aged 15-64 are participating in the labor force."

Two types of challenges to intergenerational education were identified through this study: technical challenges and socio-psycho-

political challenges. The technical challenges are related to finding skilled elderly people with specific content knowledge and who have proper experience and teaching styles. However, Angelis & Watson (1994) describe the efficiency of older people of society: "Older adults possess what many young people lack: history, patience, and a deep knowledge of the human struggle. At a time when flexibility and the ability to change are essential skills for entry into the economy, senior citizens can show the way (p. 32). Still, most of the respondents preferred providing a training program for the selected elderly participants. Another technical challenge is developing teaching content in line with the intergenerational approach. Moreover, the respondents also shed light on socio-psychological presumptions about a school's role, the definition of a teacher, notions of elderly people's role in society, and political pushback as major challenges of this concept.

The intergenerational education program could be an important source of knowledge for children and a way to demonstrate that elderly people still have value in society. This type of program can engage elderly people in community development through serving in schools, and children can develop beliefs and values that will serve them well in transitioning to responsible adult life. Additionally, values associated with community responsibility will spread among the future generation, and the community will see enhanced development, which is a major criteria for sustainable development. However, the entire concept might go wrong without proper guidelines. This paper represents a small attempt to shed light on how the implementation of intergenerational education in Bangladesh's government primary schools could put the unused skills and experiences of the elderly population into use for the benefit of the whole community.

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Factors Influencing the Reflection of "Teachers' Edition" in Practicing Inquiry in Primary Science Teaching Learning Practice

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This study aims to explore the reflection of Teachers' Edition in primary science classroom and also to explore the factors influencing the current classroom practices. This study is qualitative in nature with three research focuses: current teaching learning practices in primary science classroom, the reflection of Teachers Edition in primary science classroom and the factors affecting current teaching learning practice in primary science classroom. Lesson observation, document analysis and interview of the teachers were used as instruments. Both descriptive and thematic analysis has been done. The results show that most of the primary teachers' do not follow Teachers' Edition properly in preparing the science lesson. These findings can be implicated for seeking some effective ways of developing teachers' practice, curriculum developers and school authority to support teachers.

Key words: *Teachers' Edition, Teaching Practice, Primary Science, Inquiry, Influencing Factor*

Background of the study

Inquiry has an important role in developing understanding since it involves learners making sense through their own action, thinking and reasoning in various aspects and inquiry-based science education promotes both conceptual understanding and the development of capabilities such as critical thinking, collaborative working, consideration of alternatives, effective communication (Harlen, 2012). In primary science curriculum 2012 of Bangladesh, inquiry-based teaching learning has given more emphasis on making the student familiar with the scientific concept and natural phenomena. Primary science curriculum was revised in 2011 based on the national education policy which developed in 2010. Textbooks and Teachers' edition are also developed through a new approach in 2013 following structured inquiry to implement the aims and objectives of primary science curriculum. According to Shkedi (1995), most of the teachers usually use as while the curriculum is new to them. Teachers' Edition/Teachers' guide helps teachers to scaffold learning and think pedagogically about particular topic, considering what students are supposed to learn. A Teachers' Edition may "the main if not the only way curriculum writers can establish a direct link to the teacher and clarify their intentions to them" (Shkedi, 1995: 55). Since both the textbook and Teachers' Editions greatly influence the teaching leaning activities in Bangladesh, so it is important to explore the reflection of Teachers' Edition in current teaching learning practice and to identify the factors affecting teaching learning practice.

Indicators of inquiry-based teaching learning on Teachers' Edition:

To select the indicators for practicing the inquiry-based teaching learning process, Teachers' Edition and several literatures were reviewed and following thirteen indicators were selected.

- **Exploring prior knowledge:** Exploring students' prior knowledge, teachers can design appropriate teaching strategies, assist students to connect past knowledge and experiences with new incoming information and consequently enhance effective learning. It also helps teachers to know student's alternative conceptions/ misconceptions and conceptual change (Posner, 1982).
- **Relate prior knowledge with the new lesson:** According to Teachers' Edition, teacher should relate prior knowledge with the new lesson on the basis of students answer and by giving necessary information.

- **Start the class with a key question:** When a lesson starts by asking a key question, it involves students' and raise their curiosity and engage them in further investigation (Protheroe, 2007).
- **Presenting the problem-based situation (PBL)**: It allows the students to identify gaps in their knowledge, conduct research, and apply their learning to develop solutions to the given problem and present their findings (Barrows, 1996).
- **Inquiry-based classroom Activities:** The National Research Council (2000) advocated five key features of inquiry-based teaching in science: creating scientific questions, the collection of evidence and observations, explanation of observations in connection to the questions, evaluation of the explanations, and justification through communications of the explanations.
- **Giving the students opportunity to think about the problem:** Providing enough time is important for bringing out maximum outcome of the students. Few studies (Kidder, O'Reilly and Keisling, 1975) have found a strong positive relationship between quantity of schooling and achievement of students.
- **Asking question to guide inquiry:** The first essential features of inquiry-based teaching learning process focuses on a scientifically oriented question which drives the activity. To advocate inquiry-based teaching-learning activities teacher can provide a significant role to guide the student's inquiry (McCann et al., 2016).
- **Provide opportunity for discussion among the students during science class:** Collaborative approach is one of the essential approaches in inquiry-based teaching learning practice. It helps to improve communication skills, expression ability and positive attitude of the learners. Students can learn well when they work collaboratively rather than individual work (Vygotsky, 1978).
- **Assist the students to draw an evidence based conclusion:** Collecting and evaluating evidences allow learners to develop and evaluate explanations that address the initial scientifically oriented questions or the problem (McCannet et al., 2016).
- **Science process skills:** The modern elementary science curriculum emphasized learners to develop science process skills for doing science (Esler, 2001) which consists of 6 major skills: observing, classifying, measuring, communicating, inferring and predicting.
- **Assess the understanding of the students:** O'Rourke and Burrows (2014) suggested few criteria for assessing understanding and skills of investigation, data analysis and communication: variety of

assessment methods, summarizing data, asking questions, working individually from the text, working on problem provided

- **Assessing the learning outcomes that are most valued:** According to National Research Council (2000), learning outcome can be assessed by some activities: students writing answers, students answering questions, students' acquirement of outcomes.
- **Instruction about following classes:** Giving instruction about following class can play a significant role. By this students can be prepared for the next class. According to Teachers' Edition (2016), teacher should instruct the following lesson and end up the class by giving thanks to the students.

Research purpose and research questions

The purpose of the study is to explore current classroom practice, the reflection of Teachers' Edition and also to explore the factors affecting current teaching learning practices. The research questions are-

a) What are the current teaching learning practices in primary science classroom?

b) What is the reflection of Teachers Edition in primary science classroom?

c) What are the factors affecting current teaching learning practice in primary science classroom?

Methodology

The study is design-based on three exploratory type research questions focused on current classroom practices of primary science, reflection of Teachers' Edition in classroom practices and factors affecting primary science teaching learning activities. To explore these three central phenomena a qualitative research was needed as Creswell (2012) asserted that qualitative research is the most suitable for exploring the problem and developing a detailed understanding of central phenomena. Four schools were selected conveniently as samples both from urban and rural area. Four teachers were selected from each school and three science classes were observed by each teacher who teaches science. There were three data collection tools: an observation protocol based on thirteen indicators for classroom observation, document analysis protocol for collecting data from documents and a semi-structured interview schedule for teachers.

Results and Discussion

The reflection of Teachers' Edition in current teaching learning practices:

Table 1: Overall scenario of the inquiry-based science teaching

Focus of the observation	Provided No Emphasis	Provided Less Emphasis	Provided Some Emphasis	Provided Adequate Emphasis	Provided More than adequate Emphasis
1. Exploring Prior Knowledge	0	2	6	4	0
2. Relate the prior knowledge with new question	3	6	0	3	0
3. Start the class with a new question	6	0	0	6	0
4. Presenting the problem-based situation	5	2	3	1	1
5. Inquiry-based classroom Activities	5	1	3	2	1
6. Giving the student opportunity to think about the problem	6	1	3	2	0
7. Asking question to guide inquiry	6	4	1	1	0
8. Provide opportunity for discussion among students during science class	2	3	4	2	1
9. Assist the Students to Draw an Evidence-Based Conclusion	6	2	2	1	1
10. Emphasizing on attaining science Process Skill	4	5	2	1	0
11. Assess the understanding of the students and its application in a new situation	6	1	3	2	0
12. Assessing Learning Outcome	1	3	7	1	0
13.Give instruction about following lesson.	3	6	0	3	0

Exploring prior knowledge and relate prior knowledge with the new lesson

In primary Teachers' Edition, prior knowledge exploration with questions is the first activity in teaching learning activities in the classroom. From observation it is found that, teacher provided some emphasis in exploring prior knowledge in most of the classes and only checks the student's preparedness of previous lessons with remembering question. One teacher conveyed his opinion as-...*Normally I explore prior knowledge to*

check if students studied at home or not. It also helps me to understand the student's knowledge over the previous lesson...

Teachers' Edition suggested that teacher should relate the prior knowledge with new topic but this study also reveals that most of the teachers are not aware to relate the prior knowledge with new lesson and don't do that. As their belief relates the prior knowledge it is not necessary to achieve expected learning outcome. This finding is consistent with Nespor (1987), Tobin and McRobbie's (1997) findings that teachers' beliefs influence their practices in many ways. In this regard teacher asserted, *I think it is not so important to relate prior knowledge with new lesson. Without relating prior knowledge with new lesson learning outcome can be achieved...*

Start the lesson with a key questions and presenting a problem based situation

The new primary science textbook refines each lesson with a key question (NCTB, 2017). This study finds that the same number of classes provided no emphasis on starting the lesson with a key question. In some cases teachers are able to present a problem based situation with starting class through key question, but students didn't actually get engaged with the content properly. One of the participant teachers conveyed his opinion as, *"...from my experience I saw that students do not get involved with the class activities if I asked a key question. There is no visible difference between asking key question and mentioning the topic..."*

Jonassen and Hung (2008) argue that problem-based learning is a student-centered, inquiry-based instructional model in which learners engage with the problem that requires further research.

Giving the students opportunity to think about the problem

Teachers' Edition suggests giving students opportunity to think about the problem by giving enough time (approximately 5-7 seconds for one question). Observation found, most of the classes provided no emphasis for giving opportunity to think about the problem. The classes were conducted through lecture method so there is no opportunity to think. Teacher asked the students to read the textbook to find the answer. In this regard one teacher asserted, *"...I always tried to provide opportunity to think. But Class duration is not enough. As a result I have to skip this in the classroom..."*

Another teacher said, *"...Students are not prepared to think most of the time. If I provide opportunity to think, they start talking to each other which disrupts the classroom activities.."*.

Asking question to guide inquiry

According to Teachers' Edition, the teacher should provide clear instruction and necessary facilitation to the students to guide inquiry. Observation found, most of the classes provide no emphasis on asking question to guide inquiry as the classes were conducted through lecture method. Inquiry is hardly being seen in those classes. In this regard one teacher said,...*I think asking questions is not always necessary to guide inquiry. I can guide by giving relevant information. If I ask question during group work, it can hamper their activities. Sometimes students do not understand the questions properly...*

Inquiry-based teaching learning activities

The observation found that teacher provided no emphasis on inquiry-based science teaching in most of the classes. Also most of the teachers did not conduct inquiry-based teaching activities as they did not follow the Teachers' Edition. One teacher said,

> ...Our current context and education system do not agree with inquiry-based classroom activities. It is nothing but structured approach. Our classrooms are also not suitable to conduct inquiry. Time duration is not adequate. Besides that our question pattern is not inquiry-based. If students memorize the text from the book he/she can easily give all answers in the examination. School authority and parents want nothing but a good grade in the exam. Our society always values a better grade which also hinders inquiry-based classroom activities...

Provide opportunity for discussion among the students during science class

Getting opportunity for discussion students can share their knowledge with each other which helps to clarify their misconception. All the teachers provided some emphasis on discussion in most of the classes. This finding is consistence with the findings of Sultana (2017) as she stated that teachers have partially used collaborative approach in primary science classroom. One teacher conveyed his opinion saying,

> ...As students are used to traditional approaches in the classroom, if I provide opportunity to discuss, most of the students do not actually discuss the topic. They start gossiping and sometimes quarreling with each other which kills most of the valuable time in classroom. Controlling them is very time consuming as our class duration is not enough ....

Assist the students to draw an evidence-based conclusion

According to primary science Teachers' Edition teacher should assist the students to draw an evidence-based conclusion. Analysis of observation

found most of the classes provided no emphasis on that and follow traditional lecture method of teaching. Sometimes teachers tried but when the students could not draw conclusion teacher provided the answer. As a result students could not get opportunity to share with other members, assess themselves and achieve communicating skill. In this regard all the participant teacher blame time duration as a factor. One teacher asserted, "*...Class time duration is not enough to draw an evidence-based conclusion. It took most of the time to teach them lesson or conducting activity. As a result we did not get enough time to draw an evidence-based conclusion...*"

Science process skills

The observation found that, less emphasis was provided on attaining science process skills in most of the classes though there is suggestion about this in Teachers' Edition. According to Helgeson (1992), integrating science process skills is the most effective approach in teaching science and science content using hands-on activities which focus on specific problem solving skills. In this regard one teacher asserted,*...The number of student is really huge. It is impossible to attain individual science process skill within this short amount of time.*

Assessing the understanding of the students and learning outcome

The observation found that, teacher did not follow Teachers' Edition properly to assess students understanding and learning outcome by asking key question but the teachers assessed them by orally with remembering question. By providing essential feedback about what students are learning and how well they are learning, formative assessment can support all kinds of curricula through a reflective process focused on students attainment of the goal and standards (Greestein, 2010). In this regard one teacher asserted,

> ...Assessing individual understanding is really tough as because we have a large classroom and limited time duration. So I did not follow the Teachers Edition all the time. I asked   relevant question randomly by which I can understand what students have learnt from the class...

Overall scenario of the inquiry-based science teaching:

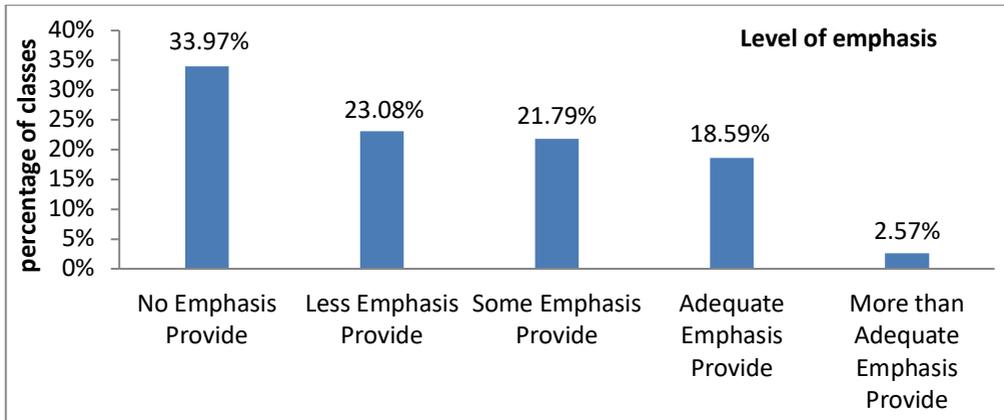This research study puts on emphasis on enquiry-based teaching learning. The overall scenario is as follows:

Figure 1: Overall scenario of the inquiry-based science teaching **(**Percentage of providing emphasis on inquiry-based teaching).

The obtained data indicated that teacher provided no emphasis on inquiry-based science teaching in most of the classes and it is about 33.97% of the classes. However, less emphasis was provided in 23.08% of the classes. Some emphasis was provided in 21.79% of the classes on inquiry-based science teaching. Moreover, adequate emphasis was provided in 18.59% of the classes and more than adequate emphasis was provided only in 2.57% of the classes on inquiry-based science teaching. From the classroom observation it was evident that Inquiry based teaching learning activities is not practiced in primary science classroom.

Factors affecting current teaching learning practice in primary science classroom:

There are some barriers identified by teachers in conducting inquiry-based classroom activities for which they cannot follow the instruction of Teachers' Edition properly.

- *Large class:* The findings of the study reveals large class pose a great problem to conduct inquiry based teaching learning activities and teachers also identified that. Hayes (1997) stated, teachers considered that teaching in large class is physically tough and involved many problems such as discipline and control aspects of the students.
- *Class duration:* Teachers claim that inquiry-based activities is time consuming and the existing class duration is not enough for that. Mulenga (2012) also observed that it was difficult to find time to focus on individuals as often as one wanted.

- *Students' active participation:* Participant teachers (three out of four teachers) claim that most of the students are not active in large class as there is a huge number of students, so it is difficult for them to give individual attention to the students and which hampers the classroom activities greatly. This understanding is supported by Bahanshal (2013) who concluded that students in large classes seem to be demotivated.

- *Class load:* This study finds that there is no break between two classes and teachers have to conduct six or seven classes in a day. As a result, they could not take proper preparation to conduct-inquiry based teaching activities in science classes and keep concentration in all classes.

  According to Oplatka (2012), workload makes teachers unable to teach effectively and cover the content profoundly which is consistent with the findings. He also states that heavy workload causes high level of energy-depletion and high level of dissatisfaction and frustration.

- *Lack of physical infrastructure:* This study reveals that physical infrastructure of classroom are not favorable in inquiry-based teaching learning activities.

- *Teachers' belief:* This study reveals teachers' belief is one of the factors of inquiry-based teaching learning activities. According to Nespor (1987), Tobin and McRobbie (1997) teachers beliefs influence their practices in many ways.

Implications

The findings of this study has some implications.

- This study will help to develop Teachers' professional development training and motivational programs can be addressed this issue.
- Curriculum developers may extend their thinking about inquiry-based teaching and can add proper instruction about inquiry-based teaching in curriculum.
- This study has been conducted on a small scale with only 4 teachers. Future research can be done on a large scale.

Conclusions

The main focus of our primary science teaching learning activities is to provide students' with science knowledge. The process in which the students are learning is not important to most teachers. As a result most of the teachers just convey the information and science concept to the students

without involving them in various activities. The practice of inquiry based teaching learning is comparatively poor in primary level. This study reveals that only 33.97% classes provided no emphasis while only 18.59% classes provided adequate emphasis on inquiry-based teaching. A number of notable factors like large class size, class duration, class load etc. are found which influence the current primary science teaching learning activities.

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Salahuddin, Ray, Hasan & Islam

Bangla Reading of Grade Three Students: an Explanatory Study at Government Primary Schools in Bangladesh

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The main objective of this study is to measure the present status of Bangla reading fluency with understanding of grade III students at the Government Primary Schools (GPS) in Bangladesh. To meet these research objectives, we used explanatory sequential mixed methods design with multistage cluster sampling strategies. Through quantitative analysis it is found that students scored on an average 2.34 (out of 4) in reading seen text and 1.29 (out of 3) in reading unseen text. In addition, students can read 48 words per minute with 80% comprehension. It is also found that the major causes of gaps in achieving reading skills are- students' inability to identify the alphabet, break joint letters, make words and make sentences. To overcome this situation teachers can conduct a baseline survey at the beginning of the academic year and support students continuously to reach the mark. Besides, teachers can follow the teachers' guide (TG) of NCTB in Bangla language teaching.

Key words: Reading fluency, Joint letter, Scaffolding, Primary Education, Bangladesh

Background of the study

Bangladesh, a developing country with a high density of population aspires to develop through the use of human resources. To build quality human resources, it is essential to have in place a quality education system. The National Education Policy-2010 and Revised National Curriculum-2012 emphasize achieving a national benchmark regarding literacy issues. The policy stated "to take effective steps to ensure the acquisition of essential knowledge, subject-based knowledge, life skills, attitudes, values and the sense of social awareness to meet the basic learning needs that will enable them to move ahead to the next level of education"(Ministry of Education , 2012). In the national curriculum, Bangla has been used as an instructional language for most of the subjects' to attain subject knowledge. To have a sound knowledge in reading and comprehending the Bangla language; and to attain the basic language skills of Bangla, five sub-skills – letter knowledge, phonemic awareness, reading fluency, vocabulary, reading with comprehension have been addressed systematically in Bangla textbooks (National Curriculum and Textbook Board, 2012).

Effective literacy skills open the doors to more educational and employment opportunities so that people are able to pull themselves out of poverty and underemployment (Project Literacy, 2020). Helping someone to read and write effectively or to acquire the basic skills, improves the future of everyone in society. Literacy is critical to economic development as well as individual and community well-being. However, Bangladesh has been struggling to establish an efficient, inclusive and equitable primary education system for all children since its independence in 1971. In addition, Bangladesh faces many other challenges in ensuring sufficient achievement for all students in the primary education sector. In this situation, many arguments have been made that the students in government primary schools are not sufficiently competent in their native language (Bangla) subject. For example, the report of National Student Assessment (NSA) for grade three shows that students with sufficient reading ability were 75 percent in 2013 while it was 68 percent in 2015 and 74 percent in 2017 (Directorate of Primary Education, 2018). Though student reading ability shows in NSA 2015 was 68 percent but the score of reading with understanding is not at expected level. For example according to World Development Report-2018, 43 percent students of grade three could not answer simple questions from reading a Bangla passage in 2015. Moreover, in 2017 when the grade III students reached grade V two years later, their performance was 88 percent, scored below the expected score for class V in Bangla (World Bank, 2018). Regarding these aspects, researchers sought to

explore the gaps between reading and reading with answering by following questions.

Language teaching in a primary school classroom is highly systematic which needed professional development for teachers so that they can arrange an effective language teaching approach. The purpose of teaching native language at primary level is to help students to develop competence in all four language skills through meaningful and enjoyable activities (National Curriculum and Textbook Board [NCTB], 2012). Listening, speaking, reading and writing skills are important for a child to succeed in his/her study life. According to Richards (2006), it is the age of communication and effective communication is one of the most important skills that every student should possess.

Reading is a vital but complex cognitive process. While we often think of reading as one singular act, our brains remain actually engaged in a number of tasks simultaneously each time (The five essential components of reading, 2018). According to them, there are five aspects to the process of reading: phonics, phonemic awareness, vocabulary, reading comprehension and fluency. These five aspects work together to create the reading experience. As children learn to read they must develop skills in all five of these areas in order to become successful readers.

Study Context of the Study

The government is trying to ensure quality education to form the basic level of students through primary education. They took different initiatives for tracking its development in the last few decades. For example, the National Education Policy 2010 and National Curriculum 2012 set a different benchmark for developing language skills of primary students from curriculum to textbooks where reading is treated as an emphasized area. Developed countries like OECD countries are assessing their students' performance through the PISA exam. Similarly, in Bangladesh, students' performance on reading in Bangla is assessed through the National Students Assessment (NSA). Bangla is a compulsory subject at primary level and every exam including Primary Education Completion Examination (PECE) assesses the students' two skills (reading and writing) out of four basic skills of language through paper-pencil tests. Students scored well in PECE exam while they achieved a poor score in the NSA.

Regarding these aspects, the Ministry of Primary and Mass Education (MoPME) feels the need to know the causes of learning gaps between the assessment processes. After that National Academy for Primary Education (NAPE) conducted a study to identify the reading ability of class four students of government primary schools. It is assumed by the

government, that most students of class three can't read Bangla at an expected level that is cited in National Curriculum 2012. The government is keen to explore the causes behind this situation. That's why the MoPME gave the responsibility to the NAPE to conduct this study on Bangla Subject in order to find out the causes of weakness in Bangla of grade three students at Government Primary Schools (GPS).

Rational of the Study

The ability to read is fundamental for overall academic success which positively affects life outcomes. Yet, in most of the countries of the developing world the literacy rate is lagging. While efforts over the past two decades have resulted in substantially increased enrollment, but quality of education has not improved significantly, particularly in the early grades. Research has shown that students who do not learn to read in the first few grades are more likely to repeat and eventually get dropped out from school, as a result the education attainment gap between readers and nonreaders increases over time.

Reading fluency is important for bridging word recognition and comprehension. Fluent reader can understand the inner meaning, in line and between line meanings of the text. Non-fluent readers mostly struggle with decoding so they cannot concentrate on the meaning or understand what the text means. Moreover, reading fluency is also important to link between early and later reading phases (International Letiracy Association, 2018).

Different national and international organizations including individual researchers conducted studies on students' performance in Bangla reading. Such as in 2013, Save the Children undertook a cross-country analysis in Bangladesh, Ethiopia, Malawi, Mozambique, Nepal, Pakistan, and Zimbabwe to measure the equity impact of Literacy Boost. This study stated that in Bangladesh, a student can read 28 words fluently in a minute and their accuracy rate was 83.1%. In addition, students scored in reading comprehension on an average 1.7 while the allocated score was 10 (Sayed, Guajardo, Hossain , & Gertsch, 2014). Another study conducted by the IED, BRACU in 2016 entitled *"Baseline Survey of the Innovation for Improving Early Grade Reading Activity (IIEGRA) project"* areas of seven Upazilas in Khagrachori and Cox's Bazar districts. This study stated that in Bangladesh, a student can read 54 words per minute (WPM) and their accuracy rate was 85.6%. In addition, students were scored in reading comprehension on an average 5.9 while the allocated score was 10(Shimu, Kalam, & Hossain, 2016).

All of these studies were conducted in early grade (class one & two) area by different non-government organizations. That's why it is important

to know the reading status of grade three students after completing the early grade through reading rate of words per minute (WPM) and the level of comprehension.
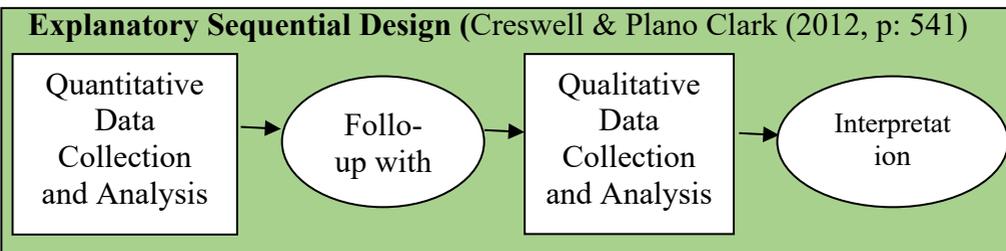
Objectives of this Study

The main objective of this study is to measure the present status of Bangla reading fluency with understanding of grade III students at the Government Primary Schools (GPS) in Bangladesh. Besides, this study also tried to explore the weaknesses and remedies for achieving reading skills of grade III students. The specific objectives of this study are:

- to find out the present status in achieving Bangla reading skills
- to identify the causes of gaps in achieving reading skills
- to find out the remedial measures in achieving good reading skills

Methodology

To meet these research objectives, we used explanatory sequential mixed methods design with multistage cluster sampling strategies. According to Creswell, (2012), *'an explanatory sequential mixed methods design* (also called a two-phase model; Creswell & Plano Clark, 2011) *consists of first collecting quantitative data and then collecting qualitative data to help explain or elaborate on the quantitative results'* (p.542). The researchers prioritized the quantitative data more than qualitative data and quantitative data was collected first followed by qualitative data sequentially. The researchers analyzed the data separately; first quantitative data and then qualitative data thematically.

Explanatory Sequential Design (Creswell & Plano Clark (2012, p: 541)

| Quantitative Data Collection and Analysis | → | Follo-up with | → | Qualitative Data Collection and Analysis | → | Interpretation |

As per methodology, the study has been conducted in different phases. In the first phase, the researchers used an achievement test to identify the students' learning level on reading skills of Bangla language for grade III students. In the follow-up stage, students' level of learning and areas of gaps were ascertained from the quantitative analysis. These analyses helped to determine the activities of phase two. In the final phase, the researchers interviewed the teachers to find out the causes of students' learning deficiencies and gaps in reading skills. Moreover, the researchers conducted a focus group discussion with the students to add extra

information for the research objectives. The use of multiple methods allowed the researchers to triangulate the data and add rigor, breadth and depth to explore the real-life situations of both urban and rural students in the government primary schools in Bangladesh.

In the 1st phase, to select the sample students, multistage cluster sampling procedure was followed. A total of 8 districts were selected, one from each division considering various geographical (Plain land, Haor, Hilly and Costal) locations. From each selected district, one Upazila was selected from the Upazila list randomly. A total of 16 Government Primary Schools (GPS) were selected, two from each Upazila where one was located in an urban area and one was in a rural area and the selection was done through a random sampling technique. From those selected schools, a total number of 394 students of grade three (following the equation of Cochran, 1963 considering 95% confidence level and 5% margin of error) were selected where 24-26 students of class III were selected randomly from each school. In the 2nd phase, two FGDs were scheduled in each school which was selected in the 1st phase. Where one FGD was done with 5/6 advanced students and another one was done with 5/6 weaker students who were selected purposively. In addition, a total number of 16 teachers (who taught Bangla) were selected using purposive sampling techniques for conducting an interview. Finally, the collected quantitative data were analysed through descriptive statistics by applying SPSS and qualitative data were analysed thematically which emerged from research objectives.

Findings

The findings of this study have been presented following the research objectives.

Present scenario of reading skills

Students were assessed through seen text and unseen text. A poem was adopted from textbook whereas another text was adopted from supplementary reading materials (maintaining grade wise difficulty) to measure the students' reading skills through loud reading, silent reading with understanding. Researchers provided two set of text (one set for seen text and another set for unseen text) to the students followed by three domain (Knowledge, Understanding, and Application) based Multiple Choose Questions (MCQ). The instruction for students, was read the text with understanding and answer the following questions. Mainly the item was arranged maintaining the sequence of knowledge, then understanding and application.

Table 1: Overall performance of reading

Area	Seen text	Unseen text
Mean	2.34 (out of 4)	1.29 (out of 3)
SD	1.224	0.876
Minimum scored	6.2%	18.6%
Maximum scored	21.6%	9.4%

The above table shows that the mean score of silent reading (seen text) was 2.34 (out of 4) whereas the standard deviation was 1.224. It also found that 21.6% students s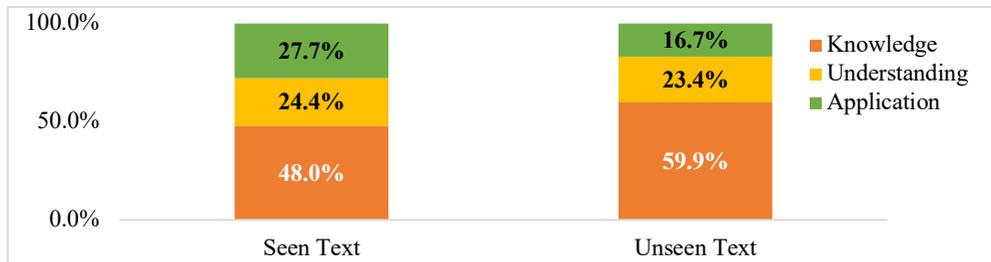cored 4 out of 4 while about only 6.2% students cannot scored. Conversely, the mean score of silent reading (unseen text) was 1.29 (out of 3) whereas the standard deviation was 0.876. Data show that 9.4% students scored 3 out of 3 while about only 18.6% students cannot score.

Figure 1: Domain-based reading performance

Mainly students perform better in knowledge level question than understanding and application level questions for both seen and unseen text. In seen text, 48.0% of students responded correctly knowledge-based items while 59.9% of students answered similar items in unseen text. In addition, 24.4% of students responded correctly in understanding based items of seen text while 23.4% of students answered in similar items correctly in unseen text. Moreover, 27.7% of students responded correctly application level-based items of seen text while 16.7% of students answered correctly in similar items of unseen text.
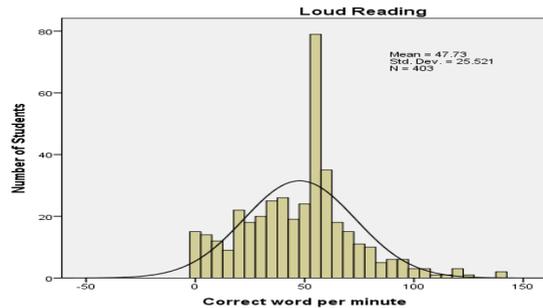
Figure 2: Reading fluency

The above figure shows the students' reading fluency. Data show that students' read loudly the provided text on an average 48 word per minute (wpm). The standard deviation for reading fluency is 25.521 which means that variation of students' performance was high in reading fluency.

Causes of gaps in achieving reading skills

Through teachers' interview, the researchers wanted to explore why students' performance is poor in reading. Most of the teachers identified that mainly students are not able to identify the alphabet, not able to make words with the help of alphabet, not able to make the joint letter (two letters are joint together) and not able to make sentences with the help of words. For example, a teacher stated *"mainly students are poor in reading due to lack of proper guideline at grade one and two. In addition, I tried to teach the students from the beginning while they cannot adapt themselves to my lecture"* (TIR$_{31}$). Moreover, one of the teachers stated:

> I think the problem comes from grade one and two. Students get a promotion without achieving learning outcomes of the previous grade like identifying the alphabet, making words, braking joint letters and making sentences. The teachers of grade one and two might not identify the students' weakness in Bangla that is why we faced such kind of challenges in upper grade (TIU $_{21, 51, 71, 81}$).

In Bangla class at GPS, mostly teachers conducted lessons with emphasis on reading skills. For example, to present a story or essay or descriptive text, teachers read loudly at first then teach word meaning, breaking joint letters, making sentences and writing summary. During teachers' interview, a teacher from urban GPS mentioned "*I make student attentive at class, then read loudly with proper pronunciation and student match the words with their book after listening to me. I call 3/4 student in front of the class to read as I read and other students listen*" (TIU$_{81}$).

Teachers assess the students reading skills following different strategies. Almost all teachers mentioned that they assess students reading

skill by asking to read. Most of the teachers mentioned that they generally ask the student to read the content which is a part of the textbook already taught at the classroom. A small number of teachers *'ask student to read one by one'* (TIU$_{61}$) and ask simple questions from reading as teacher mentioned that *'I ask simple question related to the reading materials to evaluate students reading skill at classroom'* (TIU$_{81}$).

There is no book corner in any classroom while teachers claimed that they have sufficient books for students at the library. That is why students cannot collect easily. For example, a teacher said, *"we have a bookshelf at the office room and every Wednesday we provide books to the students"* (TIU$_{11}$). Another teacher claimed, *"schools have sufficient books for students. If students need any book for reading, we provide them from our bookshelf"* (TIU$_{82}$). Conversely, students pointed out that they have no opportunity to read supplementary reading materials (SRM) except textbooks. During FGD, most of the students mentioned *"There is no book corner and SRM at their classroom"* (FGD$_{22}$)

Most of the schools have supplementary reading materials (SRM) at the teachers' room that's why students have no opportunity to receive this SRM. During teacher's interview, similar opinion came from a teacher. He mentioned, *"We have SRM in the school and provide the students supplementary reading materials when they want"* (TIU$_{81}$). Another teacher said

> SRM is needed for teachers to conduct the class in an effective way. Students are busy with their textbook related reading and home work. They have not enough time to read supplementary reading materials without textbook. So I encourage them to read textbooks for getting good marks in final exam (TIU$_{51}$).

During FGD, students identified different issues regarding book corner and supplementary reading materials (SRM) like:

- *No book corner at our classroom* (FGD$_{61, 81, 62, 91, 92, 51, 32, 82}$)
- *We did not receive any other book except textbooks from our teachers* (FGD$_{82}$)
- *Mainly, we read textbooks at home, not other books* (FGD$_{21, 31}$)
- *We love to read textbooks and teachers inspired us to read textbooks* (FGD$_{41}$)
- *Our schools have some story books at teachers room* (FGD$_{51, 82}$)

Remedial measures to minimize the gaps in achieving reading skills

During teachers' interview, the researchers wanted to know the possible solution to overcome these challenges for developing reading skills of Bangla. They mentioned as follows:

- **Regular attendance:** Students' regular attendance is important to fulfill their learning need. During teacher interview a teacher mentioned *"If I wanted to ensure our students' learning needs, firstly we have to ensure their regular attendance. If a student is absent from class for two-three days continuously, s/he will miss the flow of language learning. Because one lesson is connected with others"* (TIU $_{82}$).

- **Subject based training:** Most of the teachers mentioned that they needed subject-based training in a proper manner. Most of them emphasize increasing the duration of training. For example, a teacher for rural primary school stated *"Duration of subject-based training has to be increased 6 days to 15 days or more and should be ensured for all Bangla subject teachers"* (TIR$_{21}$). In addition, a teacher pointed out *"subject-based training has to be conducted properly with sincerity"* (TIU$_{72}$).

- **Teachers' motivation:** Motivation is an important technique for better teaching and learning. Continuous common activities make a man bored. That is why sometimes they need variation in their activities like, professional development training, extra increment etc. Similarly a teacher said *"For better achievement of language skills, teachers have to meet the requirements sincerely, heartily and cordial"* (TIR$_{22}$).

- **Recruitment of subject-based teachers:** In general, a teacher conducts various classes in different subjects from grade one to five in an academic year. Every teacher is not expert in all subjects. A demand comes from the school is that *"For these upgraded curriculum, it is a national demand to recruit subject-based teacher for betterment and to fulfill students' learning needs"* (TIR$_{32}$). Correspondingly another teacher mentioned *"We have to ensure a dedicated teacher for each subject and one teacher will teach Bangla from class one to class five"* (TIR$_{22}$).

- **Teacher-student ratio:** Due to large class size, none of the activities can be conducted appropriately. It is impossible to conduct language class with modern language teaching methods and techniques because of high ratio of teacher and students. Similarly a teacher pointed out that *"we have to ensure teacher students ration in a logical manner"* (TIU$_{82}$).

- **Parents' awareness:** Parents' awareness is essential to ensure students' better performance. Schools can arrange various programs for developing parents' awareness regarding students' performance.

For example, a teacher said *"We have to arrange parents meeting in a month as we need some program for developing parents' awareness regarding students' performance"* (TIR$_{61}$). Similarly, another teacher stated *"Parents have to feel concerned about their child's education"* (TIR$_{51}$).

- **Language assessment policy:** Government has to introduce an assessment policy for primary schools especially for language learning. . Mainly, teachers are assessing the students' four language skills through a paper-pencil test although mostly it is not possible to measure listening and speaking skill with this model at all. Similarly, a teacher pointed out: "*we need an assessment policy for measuring four language skills at primary level. Now we are not capable of assessing listening and speaking skills through the paper-pencil test. That is why we avoid these two skills from our formal and summative assessment. I think, the government had to give positive attention regarding this issue"* (TUI $_{82}$)

- **Teaching strategy:** Language skill development depends on practice. Teacher's guide published by NCTB emphasized reading practice on classroom teaching learning activity like teachers' ideal reading when students listen carefully, students' loud reading, students' reading repeat after teacher, practice of reading understanding, choral reading, guided reading, and independent reading. For example, a teacher said *"We have to follow teachers' guide (TG) of NCTB in teaching Bangla"* (TIR$_{61}$). Reading will be assessed according to learning outcomes.

Discussion

This study found that students scored on an average 2.34 (out of 4) in reading seen text and 1.29 (out of 3) in reading unseen text. It also found that 21.6% students scored 4 out of 4 in reading seen text and only 9.4% students scored 3 out of 3 in reading unseen text. Similarly Shimu, Kalam, & Hossain (2016) stated that students scored in reading comprehension on an average 5.9 out of 10. So, we interpret that students can score 50% of total marks in reading comprehension. This study also explores that students can read 48 words per minute while similar findings were found in another study they pointed out that a student can read 54 words per minute (WPM) and their accuracy rate was 85.6% (Shimu, Kalam, & Hossain, 2016). However, a different scenario was found in another study which explored that a student can read 28 words fluently in a minute and their accuracy rate was 83.1% (Sayed, Guajardo, Hossain & Gertsch, 2014). Though, there is

no recognized fluency benchmark for Bangla which may help us to compare students' reading fluency.

This study explores that in primary schools Bangla classroom activities are conducted mostly with the emphasis of reading and writing skills. In Bangla class the teacher reads loudly with proper pronunciation and students match the words with their textbook while reading, sometime students repeat after teacher then teach word meaning, breaking joint letters, making sentences and asking students to write summary, asking students to write words, joint letters, making sentences and simple questions, the teacher writes one demo line to follow, gives home work to do (write one page); asks to write answers of simple questions. According to Sadiku (2015), students need opportunities to develop their reading skills. Developing students' competencies in reading requires exposing students to gradually challenging reading materials. The aim is making students read effectively.

During FDG students specified that teachers read and ask to listen and repeat after teacher, ask to read, teach exercise after reading, teach new words, spelling and word meaning, ask to memorize the poem. Most of the teachers didn't teach picture related text, ask to write after showing the picture, and ask to write from text. To overcome the situation, the National Curriculum and Text Book Board (NCTB) suggested in Teachers Guide (TG) for using different methods and techniques for the development of reading skills such as- (a) using 'top-down' method; (b) scaffolding in guided reading and independent reading; (c) follow correct pronunciation, appropriate speed and punctuation marks in reading; (d) exercise silent reading for understanding, use flashcard/word card for vocabulary resource development; (e) ask to read out of textbook, newspaper, and magazine. (Alam, Begum , Zibran, & Ahsan , 2016). Almost all teachers assess students' reading skill by asking to read, generally asking students to read the content which is a part of textbook already taught in classroom, ask students to read one by one and ask simple questions from reading.

This study explores that most of the schools have supplementary reading materials (SRM) which are preserved in the teachers' room and students have no opportunity to receive that SRM. Although a teacher mentioned that SRM is needed by teachers to conduct the class in an effective way. Students are busy with their textbook related reading and home work. They have not enough time to read supplementary materials without textbook. Though the Report Card Survey- 2016 found similar findings. Data show that SRM facilities are decreasing gradually. Sixty five percent respondents replied negatively in the question of whether the school

has SRM or not whether it was 71% in 2015 and half of the respondents claimed that their schools have no library facilities (CAMPE, 2017).

Recommendations

Finally the research team recommended:

- Identify the weakness of students reading in Bangla through baseline survey at the beginning of the academic year and scaffold them continuously to reach the mark according to survey.
- Teachers' have to follow teachers' edition of NCTB for Bangla language teaching. In addition, s/he can follow the annual and daily lesson plan provided by the NAPE.
- Ensure formative assessment to assess reading skills at classroom.
- Teachers can encourage the students to read more books along with textbooks. Government has to ensure making book corner in every classroom and providing supplementary reading materials (SRM) for each school.
- Recruit subject-based teacher to fulfill learning needs of primary students. In addition, the management has to assign one specific teacher for grade one to five for teaching Bangla.
- Government has to ensure gradually subject-based training (Bangla) for every teacher in a proper manner and the duration of training should be increased.

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Acknowledgements

Rabbi

Effective Use of Teaching Methods and Techniques at Primary level in Bangladesh

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The aim of the study was to find out the effective use of teaching methods and techniques at primary level in Bangladesh. All the participants had training from URCs, PTIs were included in the sample. Major findings of the study suggest that (1) teachers present a short overview of the contents; (2) teachers use teaching aids to enhance the student's learning; (3) teachers deliver lecture at a pace which allows students to take notes; (4) teachers use simple and life related examples to explain the contents and; (5) teachers periodically summarize important ideas. It was concluded that teachers were uncertain to probe questions answer is incomplete, repeats questions when necessary and also responds students queries politely and carefully; teacher establishes and maintains contact with the student's body movements do not contradict the speech and takes notes to respond students curiosity and the teachers voice can be heard easily, he raises and lowers his voice for variety and emphasis. It has been recommended that teaching-learning materials should be used more vigilantly by teachers to make their teaching effective, teacher must pay attention to remove boredom among students and make students learning better and teacher should pay more attention to their own personality and manners and be cooperative with student's words.

Keywords: Teacher, teaching methods, teaching techniques, teaching tactics, primary level.

Introduction

Teaching is a process which requires proper teaching methodologies, to imprint knowledge among students and to transfer knowledge to the next generation. Primary education is the base of a learner; effective teaching methodology is to be adopted according to the needs of the students so that proper guidance can be given. Vijayalakshmi. (2004) suggests that teaching is both an art and a science. Skilled teachers always find ways to improve their teaching techniques. With the change of time the teachers are asked to employ newer methods for teaching their pupils more effectively so that they must be able to cope with the demand of the age. The latest techniques of teaching are a need of the hour. The progress of a country depends upon the quality of its teachers.

The teacher is the person who teaches the students, guides the learners and enables them how to read and write. Encyclopedia of education defines teacher education as, "education and preparation of individuals enabling them become professional teachers." Frank and Wagrall (1987) have emphasized the need for making teacher education dynamic. They suggested, "in order to keep pace with- technology changes in society the teacher education programs of all levels in the country must be planned in such a way that the teachers produced by these programs, are broadly educated, scientific-minded, uncompromising on quality innovative, but sympathetic towards students. Aggarwal (1990) has concluded "teacher education is that knowledge, skills and abilities which is relevant to the life of teachers as teacher."

Effective Teaching Methods and Techniques

There are several teaching methods which are used to teach at primary level in Bangladesh. However, the majority of the teachers use only lecture method to teach. There are many excuses of not adopting modern methods of teaching, the most important is that the majority of the teachers have argument that curricula is lengthy and working environment is not provided in public sector. The following are important teaching methods and techniques commonly used by the teachers such as direct instructions or lecturing, inquiry-based learning, co-operative learning, group discussions, mind-mapping and brain storming.

Lesson Planning

Teachers must adopt a good method for effective teaching. A teacher has many options when choosing a style to teach. The teachers may write lesson plans on their own, borrow plans from other teachers, or search within books for lesson plans. When deciding what teaching method to use,

a teacher will need to consider students background, knowledge, environment, and learning goals, mental age. Teachers know that students learn in different ways but almost all children will respond well to praise. Students have different ways of absorbing information and of demonstrating their knowledge. Teachers often use techniques which cater to multiple learning. Styles to help students retain information and strengthen understanding. A variety of teaching strategies and methods are used to ensure that all students have equal opportunities to learn.

Teaching Method

The main aspect of the teaching method is the way of presentation and the contents. The teaching method is determined according to the nature of the contents. There can be three methods of the content. There can be three methods of presentation. Such as:

- **Traditional method:** Lecture method, question-answer method etc.
- **Activity based Method:** Project method
- **Presentation Method:** Demonstration, observation etc.

Teaching Technique

Teaching technique is an implementation which actually takes place in a class room. It is a procedure to accomplish an immediate objective. It must be consistent with the method and harmony with approach as well. Teaching technique is a detailed list of rules or a guideline for teaching.

Teaching Strategy

The term 'strategy' refers to pattern of acts that serve to attain certain outcomes and to ground against certain others. The word strategy means the determination of some policies by planning before presenting the contents with the help of which the student's force is faced and the teaching objectives are achieved. Pre-planning is key to success.

Teaching Tactics

Teaching tactics mean the method with which new knowledge is marked in the minds of pupils permanently. Teaching tactics are more comprehensive than the teaching strategies. In other words, under a single teaching strategy, by using one or more teaching tactics, the lesson can be made easy, clear and understandable.

Objectives of the study

The objectives of the study were to-

- investigate the use of methods and techniques of teaching at primary level.

- differentiate between teaching methods and techniques.
- explore advantages and disadvantages of various methods.
- identify the effective use of teaching methods and techniques.

Rationale of the Study

This study has great importance for the teachers in general and for primary level school teachers in particular, as this study has collected a lot of information about teaching methods and techniques, their effectiveness and appropriateness at primary level. The significance of the study will also be for the planners and education officials in policy formulation or revision of teacher education programs at primary level in the country. It will also help in- service teacher education institution to award or offer relevant training programs.

Methodology

Primary level teachers from Khulna and Cumilla district who received trainings from PTIs, URCs served as population of the study. This also included education officials from Khulna and Cumilla. 50 male and female primary level teachers from Khulna and Cumilla district were taken as sample. Random sampling was used as sampling technique. It included heads of institutions. Questionnaire was the major instrument of the research for the collection of data. A questionnaire was developed for the teachers and education officials for the purpose of data collection. The questionnaire was validated by the experts. It was further improved after pilot testing on the heads of institutions of Government Primary Schools at Homna, Cumilla and was then finalized. The questionnaire was personally administered to the respondents and collected back after their completion.

Data Analysis

Data were collected using an observation scale. Percentage was calculated by using statistical technique for analysis. The data obtained were tabulated in terms of frequency. The frequencies were converted into scores by assigning the following scale value of each of five responses. Following findings (see appendix-1) were drawn on the basis of item analysis of questionnaire:

Assessing Prior Knowledge:

Majority of 40% respondents were uncertain with the statement that the teacher assesses prior knowledge in the beginning of the class. Mean score is 1.5 which falls within level of disagreement with the statement. That means most of the teachers at primary level are uncertain about assessing prior knowledge.

Differentiating between methods and techniques:

Majority of 68% respondents were uncertain with the statement that teachers can differentiate between teaching methods and techniques. Mean score is 0.3 which falls within level of disagreement with the statement. That means most of the teachers at primary level are uncertain in differentiating methods and techniques.

Using teaching-learning materials:

The majority of 50% respondents agreed with the statement that a sufficient amount of material is included in the lesson. Mean score is 2.5 which falls within the level of agreement with the statement. That means on an average teachers use teaching learning material at primary level.

Stating learning outcomes in the beginning:

The majority of 40% respondents were uncertain with the statement that the teachers state the learning outcomes of the class in the beginning. Mean score is 1.5 which falls within the level of disagreement with the statement. That means most of the teachers at primary level were uncertain about stating learning outcomes of the class in the beginning.

Using motivation in the beginning:

The majority of 50% respondents agreed with the statement that the teacher uses motivation in the beginning of class. Mean score is 2.5 which falls within level of agreement with the statement. That means most of the teachers at primary level use motivation in the beginning of the class.

Presenting brief overview of the content:

The majority of 60% respondents agreed with the statement that the teacher presents a brief overview of the contents. Mean score is 3.0 which falls within level of agreement with the statement. That means most of the teachers at primary level present brief overview of the content.

Relating todays and previous class's lessons:

The majority of 60% respondents disagreed with the statement that the teacher makes explicit the relationship between today's and the previous class session. Mean score is 1.0 which falls within level of disagreement with the statement. That means most of the primary level teachers don't relate today's and previous class's lessons.

Explaining new terms and concepts using constructivism:

The majority of 60% respondents agreed with the statement that teachers explain new terms, concepts using constructivism in the class room. Mean score is 3.0 which falls within level of agreement with the

statement. That means most of the primary level teachers explain new terms and concepts using constructivism.

Using introduction to draw upon student's experience:

Some of the 40% respondents agreed with the statement that introduction of the lesson is used to draw student's experiences and attention. Mean score is 2.0 which falls within the lack of agreement with the statement. That means some of the teachers use introduction to draw upon students' experiences.

Using discussion method in a systematic way:

The majority of 50% respondents disagreed with the statement that teachers use discussion method in a systematic and organized manner. Mean score is 1.0 which falls within the level of disagreement with the statement. That means most of the teachers at primary level don't use discussion method in general.

Asking questions to allow students participate in the class:

The majority of 60% respondents agreed with the statement that teachers ask questions periodically to allow students to participate in the classroom. Mean score is 3.0 which falls within the level of agreement with the statement. That means most of the teachers at primary level. use participatory approach

Presenting simple and real-life examples:

The majority of 60% respondents agreed with the statement that the teachers present simple and real-life examples to clarify abstract and difficult ideas. Mean score is 3.0 which falls within the level of agreement with the statement. That means the primary level teachers present simple and real-life examples to clarify difficult contents.

Using alternate teaching methods and techniques rather than traditional methods:

The majority of 60% respondents disagreed with the statement that teachers use alternate teaching methods and techniques when necessary. Mean score is 1.0which falls within the level of disagreement. That means most of the teachers at primary level don't usually use alternate teaching methods and techniques rather than traditional ones.

Asking questions to explain the relationship among various ideas:

The majority of 50% respondents disagreed with the statement that teacher asks questions to explain the relationships among various ideas. Mean score is 1.0 which falls within the level of disagreement with the

statement. That means the primary level teachers don't usually ask questions to explain the relationship among various ideas.

Summarizing important ideas:

The majority of 80% respondents agreed with the statement that the teacher periodically summarizes the important ideas. Mean score is 4.0 which falls within the level of strong agreement with the statement. That means the primary level teachers summarize important ideas to the students.

Asking questions continuously to build upon topic:

Some of 40% respondents agreed with the statement that teacher asks questions continuously to build upon the topic. Mean score is 2.0 which falls within the level of minimum agreement with the statement. That means some of the primary teachers ask questions to the students to build upon the topic.

Ensuring adherence to topic during group discussions:

The majority of 40% respondents disagreed with the statement that during group discussions in the class the teacher ensures the adherence to the topic. Mean score is 1.5 which falls within the level of agreement with the statement. That means most of the teachers do not ensure adherence to topic during group discussions.

Dividing students into group for discussion:

The majority of 50% respondents was uncertain with the statement that teacher occasionally divides the students in groups to discuss the topic of the lesson. Mean score is 1.0 which falls within the level of disagreement with the statement.

Using questions to draw student's attention:

Majority of 60% respondents agreed with the statement that teacher uses questions to draw student's attention. Mean score is 3.0 which falls within the level of agreement with the statement. That proves that most of the primary level teachers use questions to draw student's attention.

Giving pause after all oral questions:

Some of 40% respondents disagreed with the statement that the teacher pauses after all questions to allow students time to think of an answer. Mean score is 1.5 which falls within the level of disagreement. That means teachers usually do not pause after asking questions to the students and that's why they do not provide enough time to think for answering the questions.

Probing questions for wrong answers:

The majority of 60% respondents was uncertain with the statement that the teacher probes questions if a student's answer is incomplete or wrong. Mean score is 1.0 which falls within the level of disagreement with the statement. This statement means teachers do not know what to do when students fail to answer a question.

Repeating answers when necessary:

The majority of 60% respondents agreed with the statement that teacher repeats answers when necessary so the entire class may get benefits. Mean score is 3.0 which falls within the level of agreement with the statement. That means most of the primary level teachers repeat answers for the benefit of the whole class.

Responding students' questions politely:

The majority of 60% respondents agreed with the statement that the teachers respond student questions politely. Mean score is 3.0 which falls within the level of agreement with the statement. That means primary level teachers respond to students' questions politely, they do not scold them.

Establishing and maintaining vigilant contact:

The majority of 60% respondents agreed with the statement that teachers establishe and maintains vigilant contact with the class. Mean score is 3.0 which falls within the level of agreement with the statement. That means most of the primary level teachers carefully observe the students the whole class session.

Not contradicting demonstration with facial and body movements:

The majority of 80% respondents agreed with the statement that the teacher's facial and body movements do not contradict while demonstrating any experience. Mean score is 4.00 which falls within the level of strong agreement with the statement. That means during demonstration most of the primary level teachers use facial and body posture properly.

While demonstration students can see the actions of teacher clearly:

The majority of 60% respondents agreed with the statement that while demonstrating any process the class is so arranged that students can easily see the actions of the teacher. Mean score is 3.0 which falls within the level of agreement with the statement. That means while demonstrating any content students can clearly see teachers' action.

Delivering lectures in neither too formal nor too casual:

The majority of 60% respondents agreed with the statement that the teacher's speech is neither too formal nor too casual. Mean score is 3.0

which falls within the level of agreement with the statement. That means sometimes the primary level teachers in the rural areas use local languages while delivering lectures.

During group work problem teacher provide leadership to the group to clarify:

The majority of 60% respondents disagreed with the statement that when common problems arise in discussions, the teacher provides leadership to clarify situation for the group. Mean score is 1.5 which falls within the level of disagreement with the statement. That means during group work, when common problem arises teachers at primary level don't provide leadership to the group to clarify.

Varying the pace of the lessons to keep students alert:

The majority of 60% respondents agreed with the statement that teachers vary the pace of the lessons to keep students alert. Mean score is 3.0 which falls within the level of strong agreement with the statement. That means the teachers at primary level generally vary the pace of the lessons to keep students alert in their lessons.

Major Findings of the study

The major findings are presented below as following the specific objectives of this study-

Use of teaching methods and techniques at primary level

- Teachers were uncertain about assessing prior knowledge.
- On an average, teachers use teaching aids.
- Teachers were uncertain about stating learning outcomes in the beginning.
- Teachers use motivation in the beginning.
- Teachers present brief overview of the content.
- Teachers failed to relate today's and previous class's lessons.
- Teachers use introduction to draw upon student's experience.

Differentiation between teaching methods and techniques

- Teachers failed to differentiate between teaching methods and techniques.

Advantages of teaching methods and techniques

- Teachers give pause after all oral questions.
- Teachers present new concepts using constructivism.
- Teachers use demonstration and during demonstration students can see the actions of teacher clearly.

- Teachers use question-answer method and ask questions continuously to build upon the topic and to ensure participatory approach.

Disadvantages of teaching methods and techniques

o Teachers failed to use discussion method in a systematic way.
o Teachers were uncertain about dividing students into group for discussion.
o Teachers ask questions periodically to make the approach participatory.
o During group work problem teachers do not provide leadership to the group to clarify.
o Teachers failed to ensure adherence to topic during group discussions.
o Teachers were uncertain about probing questions for students' wrong and incomplete answers.
o Teachers do not use alternate teaching methods and techniques rather than traditional methods.

Identification of the use of teaching methods and techniques

o Teachers vary the pace of the lessons to keep students alert.
o Teachers lecture is neither too formal nor too casual.
o Teachers facial and body movement are suitable with demonstration.
o Teachers establish and maintain vigilant contact with the whole class.
o Teachers respond students' questions politely when asked.
o Teachers summarize important ideas.
o Teachers repeat answers when necessary for the benefit of the students.
o Teachers present simple and real-life examples.
o Teachers ask questions to draw students' attention if necessary.

Discussion:

Yasmin, et al (1984) conducted a research "A comparative study of the effectiveness of the inquiry and traditional methods for teaching biological sciences in laboratory at the High School Level." The findings of the study suggest that the inquiry approach is more effective as compared with traditional methods.

Haass (2002) in his research study titled, "The influence of teaching methods on student achievement on Virginia end of course standards of learning test for Algebra" suggested that Algebra teachers should emphasize

direct instruction, technology aided instruction, and problem-based learning. These three teaching methods categories ranked the highest in both analyses.

Jason (2006) conducted a research study titled, "Effective teaching methods for large classes" has concluded that the lecture/discussion teaching method was the most preferred among students. Student comments as to their reason for selecting this as the most valuable method seem to suggest that they have a desire to be somewhat active learners, engaging in discussion rather than passively listening to a lecture. Overall, the findings of this study suggest that faculty teaching large classes should attempt to include constructive active teaching methods in their courses whenever possible. Results indicate that most students prefer to be active in their learning process. The active and collaborative teaching methods examined in this study are not only desirable to many students, but they also appear to produce significant improvement in terms of learning outcomes.

From this study we can say that the common practice at primary school level is the lecture method in its various forms is an effective method used by the teachers. Occasionally teachers use other methods like demonstration, discussions etc. depending upon the situation. But teachers failed to differentiate between teaching methods and techniques. That's why while applying alternate methods and techniques due to shortcomings of their knowledge about teaching methods and techniques they become jumbled and uncertain what to do and which one is effective.

Conclusions

Respondents were of the view that teachers ask questions to see what the students know about the new topic. Most of the teachers were uncertain about differentiating methods and techniques, they failed to recognize which one is method and which one is technique. Respondents agreed with the statement that a sufficient amount of material is included in the lesson. Teachers were uncertain about stating the purpose of the class session in the beginning. Most of the teachers were uncertain about assessing prior knowledge in the beginning. Teachers were of the opinion that the teacher present a brief overview of the contents; but failed to make relationship between today's and the previous class session. Many respondents failed to view that introduction of the lesson is used to draw upon student's experiences and the teacher arranges and discusses the contents in a systematic manner. Respondents were of the view that teachers ask questions periodically to enable students to participate in the classroom presents clear and simple examples to clarify difficult ideas. Most of the teachers failed to pay special attention when ideas are difficult

and ask questions continuously to build upon the topic. Most of the teachers also failed to ensure adherence to the topic during group discussion in the class and uncertain while dividing the students into groups to discuss the topic of the lesson. Most of the teachers agreed that teachers use questions to draw student's attention but uncertain about probing questions if students' answer is incomplete. Most of the teachers think that the teacher repeat answer when necessary so the entire class may get benefits and teacher responds student questions politely. Most of the teachers agreed that teacher establishes and maintains vigilant contact with the students, body movements do not contradict while demonstrating any experience. Most of the teachers think that students can easily see the actions of the teacher while demonstrating and teacher discusses common problems of students, clarifies the situation for the group.

Recommendations

Following recommendations were made on the basis of conclusions:
- Teachers should use motivational techniques to involve them in learning process irrespective of the teaching methods and techniques used.
- The in-service trainers should emphasize on differentiating teachers' concept on teaching methods and techniques.
- Teachers should select the method of teaching in the light of topic, learners need and level.
- Teaching aids should be used more frequently by the teachers to make their teaching effective.
- Teachers should use joyful methods and techniques to remove signs of puzzlement, boredom and bring curiosity to make students learn in better ways.

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Appendix-1

Statement	Agree	Uncertain	Disagree	Mean score
Teacher assesses prior knowledge in the beginning of the class	24%	40%	36%	1.2
Teacher can differentiate between methods and techniques	6%	60%	34%	0.3
Use of teaching-learning materials	50%	20%	30%	2.5
Teacher states learning outcomes in the beginning.	30%	40%	30%	1.5
Teacher uses motivation in the beginning of the class	50%	30%	20%	2.5
Teacher presents a brief overview of the content	60%	10%	30%	3.0
Teacher makes relationship between today's and the previous class	20%	20%	60%	1.0
Teacher explains new terms and concepts using constructivism	60%	10%	30%	3.0
The introduction used to draw upon student's experiences.	30%	20%	60%	2.0
Teacher uses discussion method in a systematic way.	20%	30%	50%	1.0
Teacher asks questions periodically to let students participate in session	60%	10%	30%	3.0
Teacher presents simple and real-life examples to clarify abstract and difficult ideas.	60%	16%	34%	3.0
Teacher uses alternate teaching methods and techniques when necessary.	20%	20%	60%	1.0
Teacher asks questions to illicit the relationships among various ideas.	20%	30%	50%	1.0
Teacher periodically summarizes important ideas.	80%	10%	10%	4.0
Teacher asks questions continuously to build upon the topic.	40%	30%	30%	2.0
During group discussions in the class the teacher ensures the adherence to the topic	30%	30%	40%	1.5
Occasionally teacher divides the students in groups	20%	50%	30%	1.0
Teacher uses questions to gain student's attention.	60%	30%	10%	3.0
Teacher pauses after all questions to allow students time to think of an answer.	30%	30%	40%	1.5
Teacher asks probing questions if a student's answer is incomplete.	20%	60%	20%	1.0
Teacher repeats answers when necessary so the entire class may hear.	60%	30%	10%	3.0
Teacher receives student's questions politely.	60%	4%	36%	3.0
Teacher establishes and maintains eye contact with the class	60%	20%	20%	3.0
Teacher's facial and body movements do not contradict while demonstrating any experience.	80%	20%	0	4.0
While demonstrating any process the class is so arranged that students can easily see the actions of teacher.	60%	20%	20%	3.0
Teacher's speech is neither too formal nor too casual.	60%	10%	30%	3.0
When common problems arise in discussions, the teacher provides leadership to clarify situation for the group.	30%	10%	60%	1.5
Teacher varies the pace of the lessons to keep students alert.	60%	20%	20%	3.0

Learning Gaps in Achieving Reading Skills in English of Grade 3: Causes and Remedies

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The purpose of the study is to find out the causes of present learning gaps of reading English in grade 3 students and a way-out of those deficiencies in learning. This study has conducted in two phases by following the mixed method approach with sequential explanatory strategy. This study was done by two phases with a follow-up stage. Phase-1 focused on students' individual performance on reading through quantitative analysis with descriptive statistics done on students' achievement tests. In the follow-up stage, students' level of learning and areas of gaps were ascertained. On the basis of findings from follow-up stage, focus group discussions (FGDs) with advanced students in one group and weaker students in another group were conducted to know the causes of their achievement results. Data revealed that majority of the students cannot read unseen text with understandable pronunciation and stress and there were some students who were repeater and also some were promoted to grade 3 with learning deficiencies. The main causes of these learning deficiencies were inappropriate teaching techniques, problems in using teaching materials, students' passive participation, memorization tendency, inappropriate assessment, teachers' incompetence and lack of family support. To reduce those learning deficiencies the study recommends for policy makers and the stakeholders.

Keywords: Reading skill, primary education, learning gaps, English language.

Background of the study

Approximately 18.6 million students are studying at primary level in Bangladesh and they are being taught English as a compulsory subject (ASPR, 2017). However, English is taught as a foreign language in Bangladesh.

The main objective of teaching English in Bangladesh is to communicate with the foreign people for different purposes like business, higher studies, games and sports etc. English has the position of being the *'World Language'*. It is the official language of 53 countries. According to Crystal *(*1997*)* English is emerging as a global language due to the three prolonged developments, namely English as first language, English as a second language and as a foreign language. He further states, *"Nearly a quarter of the worlds' population is already fluent or competent in English" (Crystal, 1997:4).*

Kern *(*2000*)* explained and defined that literacy in a foreign language means much more than the separate abilities to read and write. He also comments that literacy is a complex concept of familiarity with language and its use in context.

Language serves many purposes. The four skills-reading, writing, listening and speaking play a vital role in any language learning. Among the four skills, Reading is a tool for achieving an effective communication. Students need opportunities to develop their reading skills. Developing students*'* competencies in reading requires exposing students to gradually challenging reading materials. The aim is making students read effectively.

Following the outline of National Education Policy 2010, the national curriculum in Bangladesh was revised by the National Curriculum and Textbook Board *(*NCTB*)* in 2012. The NCTB has defined a total number of 29 terminal competencies for primary education. Out of these terminal competencies, number 10 terminal competency specifically asked *to achieve basic skills of English as a foreign language and use it in daily life (*NCTB, 2012*)*. Out of four main objectives of learning English, number 3 objective stated *"to read and understand different types of text appropriate to the learners' ability level" (*NCTB, 2012*)*.

Rationale of the study

Most of the countries use English to maintain international relations. The rule of the international trade agreements and treaties are also maintained in English. Crystal (1987), as cited in Penny Cook (1994) states, *"English is the main language of books, newspapers, airports and the traffic control, medicine, diplomacy, sports, international competitions, pop music*

and advertising". Besides, Dickens and Cumming (1996) found out that English is the most popular modern language in academic fields (as in Graddol).

It is clear that learning English specifically learning reading English is very important in modern world and people all over the world want to study it as a second/foreign language. Many countries include English as a second language in their school syllabus and children start learning English at a young age.

So, for primary grades, reading is one of the main academic focus areas. It is essential for school subjects, as textbooks and other written supplementary materials convey the majority of information through written font. Reinforcing reading skill at home and at school help children to develop a love of reading.

Ability of reading acts as a crucial factor in developing confidence and a good self-image among learners. Poor readers often have low opinions of themselves and their abilities. They can perform poorly in other subjects because they cannot read and understand the material. Often the reader tends to give up.

Sultana, D. *(*2010*)* mentioned,

"In the existing situation, teaching and learning of English at the primary level in Bangladesh has a very low standard. Most of the students face difficulties to communicate in English and even competency level of most English teachers is not up to the mark."

When a child has learnt to read his/her mother tongue, it becomes easy for him/her to learn to read in the second language as he/she would be able to apply the same skills of phonic word *(*Krashen, 2005*)*. In the above circumstances it is important to find out the cause of poor performance of the primary school students in English learning, specifically in Reading English. Otherwise all the initiatives in this regard will go in vain. The learners will not be able to learn the target competencies and the objectives of the curriculum will not be achieved. So, it is very important to find out the causes as well as it's possible remedies of poor performance in reading English. Understanding this importance, NAPE formed a research team to figure out the answers of the research questions.

Research Questions

The main of objective of the study is to find a way-out of present learning gaps in reading English language of grade 3 students. The research questions to meet the objectives are as follows:

1. What are the gaps in achieving reading skills in English of grade 3 students?
2. What are the causes of gaps in reading English of grade 3 students?
3. How to minimize the gaps in achieving reading skills in English language?

Methodology

The study followed the mixed method approach with sequential explanatory strategy (Creswell, 2012). To follow this strategy, study was done in two phases where phase2 was done with the follow up of phase1.

Research design

Phase-1 focused on students' individual achievement on reading performance to discover the areas of weakness which was needed firstly to identify the causes and remedies of weakness. Quantitative analysis with descriptive statistics such as-frequency, percentages etc. were done on students' achievement tests to find out the gaps in achieving reading skills in English.

In the follow-up stage, students' level of learning and areas of gaps were ascertained. Students' learning gaps in different areas of achieving reading skills were identified by analyzing the performance of reading in seen and unseen text.

By considering the findings from follow-up stage, respondents for phase-2 were selected and tools were prepared. On the basis of findings from follow-up stage, focus group discussions (FGDs) were administered in two groups of each schools putting the advanced 5-6 students in one group and the weaker 5-6 students in another group to know the causes of their achievement results. Respective English subject teachers of those schools selected in phase-1 were interviewed to find out the causes of students' learning deficiencies and also remedies for those deficiencies. The research design at a glance:
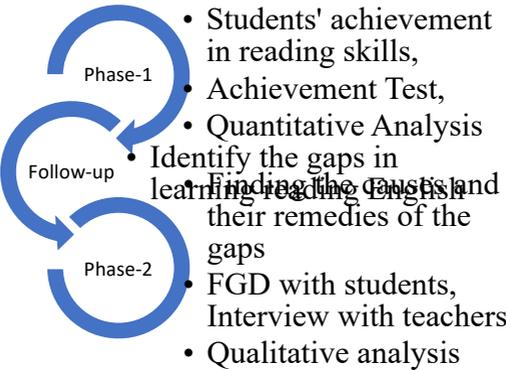
• Students' achievement in reading skills,
• Achievement Test,
• Quantitative Analysis
• Identify the gaps in learning reading English
• Finding the causes and their remedies of the gaps
• FGD with students, Interview with teachers
• Qualitative analysis

Phase-1

Follow-up

Phase-2

Figure 1: Research Design

Population, sample and sampling

A total of 29,24,975 students (BANBEIS, 2018) of grade 3 from Government Primary Schools (GPS), teachers who taught English in grade 3 in the academic year 2019 were the population of the study.

In the 1st phase, to select sample students for administering achievement test, representative sample size was determined by using the following formula:

Sample size= $\dfrac{Z^2 \times P(1-P)}{e^2}$ ………………………………….. *(Equation 1)*

Here, Z=1.96 *(*for 95% confidence level*)*, e=0.05, P=0.5.

To draw the sample from the above population using the equation mentioned here, a total of 384 is found appropriate. In order to avoid the risk, the study targeted 400 students.

Table 1: Phase-wise sample distribution at a glance

				Phase-1	Phase-2	
Division	**District**	**Upazila**	**School**	**Students**	**Students for FGD**	**Teachers**
8	8X1=8	8X1=8	8X2=16	16X25=400	16X6X2=192	16X1=16
	Simple Random Sampling				Purposive Sampling	

Data collection tools

Three different kinds of data collection tools were developed to collect data. An achievement test tool was developed for grade 3 students to get the clear idea about students' learning achievement on reading skills from the taught lessons. A semi-structured interview schedule was developed for English teachers to collect information about the causes and their possible remedies of learning difficulties of grade 3 students. And an FGD guideline was developed to get the causes of learning gaps. To ensure

the validity and reliability, the developed tools were piloted and corrected accordingly.

Process of Data collection

To maintain the standard of the study, the key researcher trained some NAPE personnel to act as enumerators to collect data effectively. To meet the research objectives data were collected from grade three students through achievement test. Besides, the students were asked to read aloud different types of texts by following one to one approach to check their fluency and accuracy. Students also participated in FGD to share their learning experiences that happened in the English classroom. To complete the study, respective English teachers were interviewed to explore their ability in conducting class as well as to identify the limitations in enhancing students' language learning skills.

Data Analysis

Students' achievement test was analyzed quantitatively. The raw data that were collected were processed under proper supervision of the study team and analyzed by applying computer software like SPSS. Quantitative data were analyzed through descriptive statistics such as frequency, mean, percentages etc. FGD and interview data were analyzed through qualitative approach focusing the objectives of the study and the emerged themes and concepts from the field data.

Coding

As the respondents of this research were assured not to disclose their identity, coded names have been used in the case of citing their opinions, suggestions and learnt experience in this research report. Upazilla was given a serial number and abbreviated as "U" and the schools was numbered numerically and abbreviated "S" for school along with its number. For the focus group students is symbolized by "ST" along with upazila and school number.

Table 2: Example of Coding

Division	District	Upazila	School		FGD	
			Urban	*Rural*	*Teacher*	*Students*
Mymensingh	*Mymensingh*	*Trishal*	*11*	*12*	*U1S11T1,* U1S12T1	U1S11ST1-8, U1S12ST1-8

Data Presentation

Three types of tools were used in this study for collecting pertinent information. All the tools were coded for analyzing the data as required and shown the relationship of information provided by different respondents. Different types of table and diagram were used for data presentation to

make the information clear to the readers of the study. The qualitative data got from teachers' interview and FGD are presented descriptively with the emerged theme.

Students' achievement test
- *Students' performance in reading seen text*

Students were given a text from the textbook to read aloud and their reading performance were assessed in three criteria. The results of their performance were displayed in Figure 2.
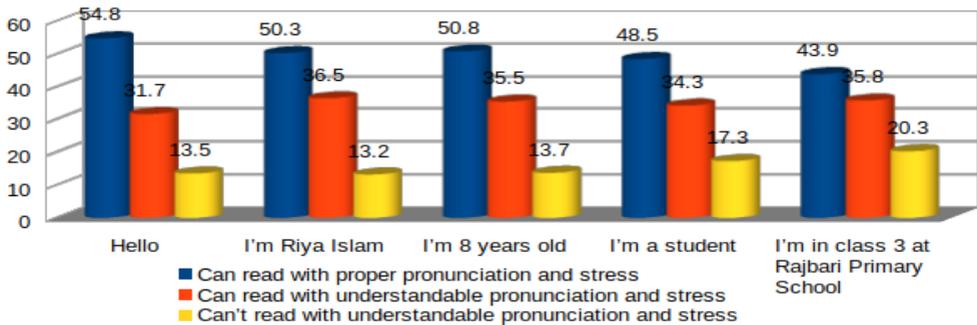

Figure 2: Students' performance in seen text

It is found that about half of the students could read the text with proper pronunciation and stress whereas few of them cannot read the text with understandable pronunciation and stress. The number of students is around 35% who can read the seen text with understandable pronunciation and stress. It is also observed that the last sentence of the text (I'm in grade 3 at Rajbari Primary School) was read with proper pronunciation by comparatively lower percentages of students. It happened that the students were more comfortable with the words of other sentences than the words of last sentence. It is then surmised that students could read familiar words more properly than unfamiliar or new words. This statement could be evident from the figure below.
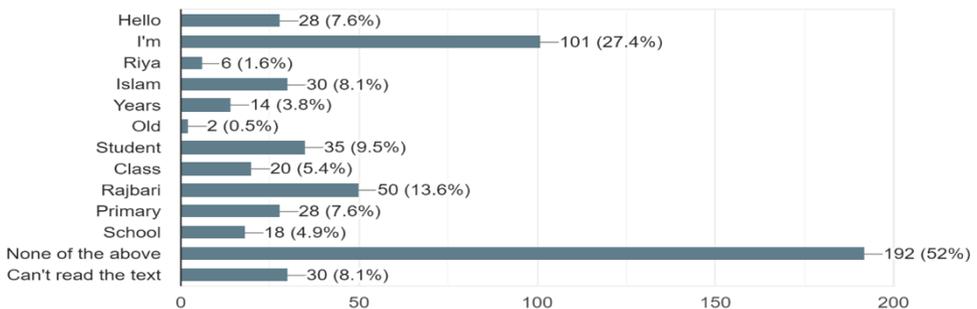
Figure 3: Mis-pronounced words in seen text

Among the 394 students, 52% students correctly pronounced all words in the seen text. About one fourth of the students cannot pronounce "I'm" and 13.6% students cannot pronounce the word "Rajbari". Less than 10% of students mis-pronounced the words which are students (9.5%), Islam (8.1%), Hello (7.6%), and Primary (7.6%). It is also found that 8.1% students cannot read the text at all.

- *Students' performance in reading unseen text*

Table 3: Students' Performance in Unseen Text

	Kaniz reads in a primary school	She gets up early in the morning	She goes to school everyday	Mr. Salam is Kaniz's father	He is a farmer
Can read with proper pronunciation and stress.	*23.9*	*26.6*	*26.4*	*20.6*	*31.7*
Can read with understandable pronunciation and stress.	*34.8*	*29.7*	*27.9*	*23.4*	*24.1*
Cannot read with understandable pronunciation and stress.	*41.4*	*43.7*	*45.7*	*56.1*	*44.2*

It is evident that around one fourth of the students can read the unseen text with proper pronunciation and stress. On the other hand, more than 40% of the students cannot read the text with understandable pronunciation and stress whereas about one fourth of the students read it with understandable pronunciation and stress.
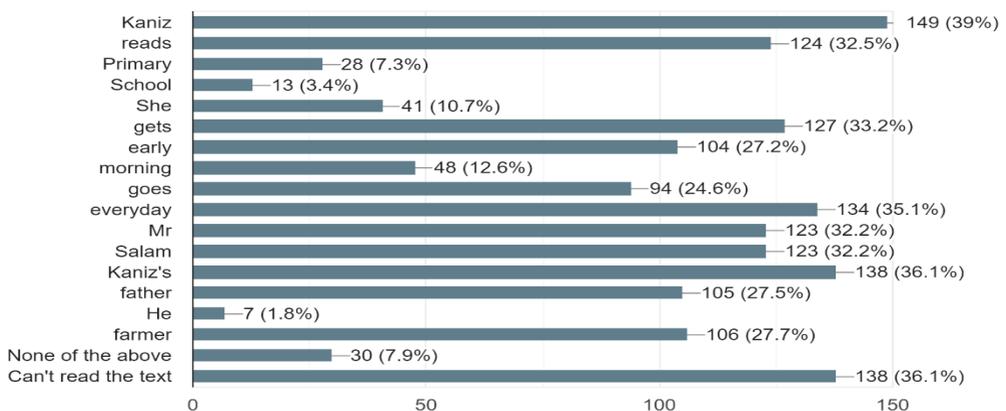
Figure 4: Mis-pronounced words in unseen text

In reading the unseen text, it is found that only 7.9% students correctly pronounced all words in the unseen text whereas 36.1% students cannot read the text at all. 39% of students mis-pronounced the word "Kaniz". Around one-third of the students mis-pronounced the words-reads, gets, everyday and Kaniz's.

Findings from the teachers and students

Grade 3 English teachers were interviewed and FGDs were conducted with the students to get in-depth data to understand the gaps in achieving reading skills. After coding and analysis, data are presented in a thematic way.

Techniques used in the classes

Both the teachers and students shared that all of the teachers read the texts aloud and asked students to repeat after the them (U2S22T1, U4S41T1, U8S82ST1-8). Some of the teachers translated the reading lessons in Bangla and asked students to repeat after the teacher by putting fingers on each word (U1S11T1, U2S21T1, U5S52T1, U5S51ST1-8). One teacher (U1S11T1) stated- *"I read aloud the text and asked students to put fingers on each word. The students read the text with me by putting fingers"*. Students also stated that some teachers also asked students to learn lessons from others at home who were not able to complete the lesson in the class (U3S31ST1-8, U7S72ST1-8).

Using Teaching- Learning Materials

Teachers usually use textbook as the main tool for reading. They used pictures in classrooms to draw the attention of the students to the lessons. It is found that teachers used text-related pictures in reading topics (U2S24T1, U5S52T1, U3S31T1). Students also confirmed about using this type of teaching materials (U2S21ST1-8, U3S32ST1-8, U6S61ST1-8, U8S82ST1-8). One of the teacher mentioned, *"First I showed the text-related pictures and then gave the description of the pictures....."* (U1S12T1). Only a few teachers asked thought-provoking questions while showing pictures.

Very few teachers had access to use the audio player in the classroom. Only a few teachers used audio in reading related lessons and this is not most often (U1S12T1, U7S72T1).

Students' Engagement in Lessons

In reading-focused classes, most of the teachers arranged pair work and group work in the class. One of them (U1S11T1) noted, *"I asked students to practice the activity in pairs and groups…"*. This is also agreed by the students that their teachers gave them pair work and group work in

reading related lessons. They also mentioned that their teachers provided individual works too.

Memorizing Subject Matter

It is also identified that teacher asked students to memorize the content (U1S12T1, U2S22T1, U7S71T1) and most of the teachers viewed that students learnt the content without understanding the content. Students also shared the same thing and they also mentioned that they read the content repeatedly until their memorization (U7S72ST1-8) was completed.

Assessment and Feedback

Most of the teachers declared that they could not assess all students learning in one class (U3S31T1, U6S61T1). To assess reading activities, most of the teachers asked oral questions to the students, both the teachers and students mentioned (U3S32T1, U2S21T1, U8S82ST1-8). They also arranged role play and individual assessment in the class. Some of the teachers encouraged students while reading and engaged good students to support slow learners (U5S52T1, U7S72T1).

Persistent Constraints

Most of the teachers voiced that they could not conduct reading activities effectively in the class for limitation of session time and a large number of students (U1S12T1, U2S21T1, U5S52T1, U8S82T1). Again, some of the teachers shared that they could not arrange group work activities due to lack of space in the classroom (U1S11T1, U3S31T1).

Teachers' capacity in classroom management

Most of the teachers faced challenges to engage students in active participation in the classrooms. They also added that sometimes they could not control the class (U2S22T1, U7S71T1).

Teachers' observation of students

The teachers stated that weak students learnt slowly and most of the time they could not remember the learnt things (U2S22T1, U7S71T1). Most of the teachers voiced that students could not pronounce English words properly and they also had limited vocabulary. Some of the teachers claimed that students could not recognize letters and words accurately and they could not read any text aloud properly (U5S52T1, U6S61T1). Most of the teachers informed that these issues caused slow learners to remain weak in classroom activities (U3S32T1, U7S71T1).

Students' learning gap

Most of the teachers said that sometimes students are promoted to the next class with learning deficiencies of previous class (U2S22T1,

U3S31T1, U6S62T1, U7S72T1). Few students were found as repeaters in the class (U1S11T1, U7S71T1).

Family Support

Most of the teachers shared that the guardians of weak students are not aware of their children's education (U3S31T1, U5S51T1, U7S72T1). Besides they added that students don't have the opportunity to practice English at home (U3S32T1, U4S42T1).

Results

After analyzing and interpreting the data collected from different respondents, the results of the study are stated according to the research questions.

Gaps in achieving reading skills

Students' learning gaps in achieving language skills are given below according to language skills:

- Students' performance in reading unseen text is unsatisfactory as majority of the students cannot read the unseen text with understandable pronunciation and stress.
- According to most of the teachers, some of the students in grade 3 were promoted to the next class with learning deficiencies from previous class.
- Teachers also mentioned that there were few repeater students in grade 3.

Causes of gaps in achieving reading skills

Causes of students' learning gaps which are identified from data analysis are as follows:

Inappropriate Teaching Technique

- Teachers did not follow the techniques of teaching reading as described in Teachers' Edition. Most of them did not introduce new words in the class. Moreover, they did not apply the chain-drill technique in teaching reading.

Problems in using teaching materials

- It is found that although the teachers showed text related pictures, they did not ask thought-provoking questions related to the pictures to the students. Moreover, the teachers didn't tell the description or asked the student to describe the pictures.

- Although teachers mentioned that word card is very important to introduce new words and useful to check the students' vocabulary learning, the teacher did not use any word card in the teaching-learning activities.

Lack of students' active engagement

- Those who gave group work, pair work and role play in reading activities, did not check how far the students are actively engaged in the activities.
- Most of the time teachers did not invite weak students in front of the class and they also did not engage weak students in role-play activities.

Memorizing content

- In reading classes, the teacher asked students to memorize the contents. In some cases, students memorized the content without understanding the lesson.

Inappropriate students' assessment technique

- Though the lesson is reading aloud, teachers asked oral questions and writing activities to assess students' reading skills.
- No teachers used peer assessment or engaged good students to check students' learning achievement in the classroom.

Students' learning deficiency of previous classes

- Students were found in grade 3 who had learning gaps in the previous classes. Some teachers claimed that to some extent students were promoted to the next class with learning deficiency.
- Some students who are repeaters in the same class were also found.

Teachers' incompetence in English

- Most of the teachers admitted that they have limitations in pronouncing English words in a proper way. Besides, they have a limited stock of vocabulary. That is why they were not spontaneous to conduct the classes in English.

Lack of Family support

- Students have very minimum opportunities to practice English outside the classroom. Most of the students claimed that they did not get the opportunity to practice English with their family member at home. But most of the families supported that their children went to study at private tuition.

Recommendations in achieving reading skills

When asked about the performances of weak students and what is needed to improve the existing situation, the teachers made their suggestions by focusing on different areas. These are-

Increasing Classroom Practice

The teachers emphasized increasing classroom practice and providing ample opportunities for students to practice pair work and group work in the classroom. They also added that it is important to provide necessary support to students during practice time so that students could recognize and write the English letters, words properly, enhance their vocabulary, and pronounce the English words accurately.

Engaging Good Students

It is found that the teachers are agreed to engage good students to support weak students in their learning. They also added to check the students learning by themselves.

Follow Teachers' Edition

Teachers said that they need to follow the lesson plan regularly to conduct classes effectively. They also wanted to teach students according to targeted learning outcomes by following Teachers' Edition. Besides, they also wanted to use teaching aids regularly.

Teaching Materials

Teachers gave their opinion regarding teaching aids to make the lessons more attractive. They wanted necessary teaching materials to conduct classes through multimedia. They also asked for audio player and supplementary reading materials to conduct classes effectively. Besides, the teachers are also determined to use teaching aids regularly in the classroom.

Students' Assessment

Teachers wanted to assess the students' performance by weekly test which will help them to track the students' achievement in learning.

Motivate and support students

The teachers stated that it is important to motivate and support students to enhance their learning. They wanted to encourage students to be more attentive in the class. Teachers also wanted to take extra care to weak students and praise them even for their very little achievement. Besides, the teachers also agreed to provide opportunities to weak students to remove shyness.

Aware parents

Teachers made their suggestions on more involvement of guardians in the school system. They agreed to communicate with parents to make the students presence regularly. Teachers also wanted to do home visit and parents' meeting on a regular basis.

Subject-based English Teachers

Teachers stated that they have limitations in taking English class and they suggested to recruit subject-based English teacher. In some cases, they asked to engage two teachers in one English. Teachers also recommended to assign one teacher to conduct English class from class 1 to class 5

Teaching should not be exam focused

When the teachers teach their students by focusing terminal or annual exam, they could not give emphasis on reading with understanding rather than memorization. Moreover, the teachers teach only the specific vocabulary which is important for exams. That's why the teachers suggested to teach students focusing learning competencies rather than focusing exam.

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Acknowledgements

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