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Evaluation of Formative Assessment Implementation Scenario under the National Curriculum 2022 at Grade Six in Bangladesh

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Teacher Education for Secondary School Teachers in Bangladesh: Gaps between Policy and Practice

Student-Centered Education Curriculum: An Assessment of Policy and Actions on Secondary School Education

National Academy for Educational Management (NAEM)
Secondary and Higher Education Division
Ministry of Education

National Academy for Educational Management (NAEM)
Secondary and Higher Education Division
Ministry of Education
NAEM Road, Dhanmondi, Dhaka-1205

All business correspondence regarding publication issues should be addressed to the
Documentation Officer, National Academy for Educational Management (NAEM)

It is with great pleasure that *National Academy for Educational Management (NAEM)* is going to publish the long-awaited volumes 34, 35, 36, and 37 of the *NAEM Journal.*

The publication of these volumes has been possible due to the unwavering support of the Director General of NAEM and of the Ministry of Education and the hard work of the editorial panels. We extend our heartfelt thanks to all involved in making this possible.

The current volume (Volume-37) reflects the Academy's commitment to fostering research that addresses critical aspects of education in Bangladesh.

The groundbreaking studies examine the impact of reading comprehension on performance in Mathematics and Science, the challenges of implementing Moral Global Citizenship Education, and Factors Affecting Teacher Performance. Another critical discourse addresses the gaps between policy and practice in Teacher Education for Secondary Schools, underscoring areas for reform.

We hope these research contributions will enrich academic discourse and inspire evidence-based policies. Moving forward, the Academy is committed to ensuring the timely publication of future volumes, reinforcing its role as a hub for Educational Innovation.

Prof. Dr. Ummay Asma
Director, Research & Documentation Division
Editor, NAEM Journal

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Evaluation of Formative Assessment Implementation Scenario under the National Curriculum 2022 at Grade Six in Bangladesh

Md. Hafiz Iqbal, PhD[1]
Kazi Md. Rukan Uddin[2]
Muhammad Kutub Uddin Rayhan[3]
Md. Khademul Islam, PhD[4]

Abstract

This study evaluates newly introduced formative assessment (FA) techniques at Grade Six in Bangladesh, focusing on teaching support receipt from institutions, receptivity, understanding, and practice. Using an e-survey, 202 respondents provided their responses through Google Forms. The study, which employs a regression model, emphasizes the importance of teachers' understanding, support receipt, and receptivity in enhancing newly introduced FA practices. Teacher training, curriculum integration, resource allocation, subject-wise assessment training strategy, use of Noipunno apps, feedback mechanisms, parental involvement, and continuing professional development are essential factors for implementing FA. The insights from this study underscore the pivotal role of assessment as a tool for empowerment, enabling teachers and students to navigate the teaching and learning process with greater awareness and efficiency.

Keywords: Formative assessment, Curriculum integration, Receptivity, Feedback mechanism, Subject-wise assessment

1. Introduction

While quality education has become a global priority, third-world developing countries like Bangladesh constantly encounter numerous challenges in ensuring quality education. Aligning with the urge for Global transformation in Education by the United Nations, Bangladesh is conducting an educational transformation by transforming its traditional curriculum into a competency-based curriculum by implementing the National Curriculum Framework 2021 (NCTB, 2021). Instead of relying only on paper-pencil-based summative assessment, introducing formative assessment (FA) on a large scale is the most significant feature of this new curriculum. The legacy of pre-determined summative methods and teachers' lack of expertise in FA techniques are common barriers to implementing the new curriculum in Bangladesh. For example, Russell and Airasian (2012, p. 80) have reported,

[1.] Assistant Professor, Government Edward College, Pabna, Email: vaskoriqbal@gmail.com
[2.] Research Officer, National Curriculum and Textbook Board, Bangladesh, Email: rukantz16@yahoo.com
[3.] Lecturer, Government Brojomohun College, Barisal, Email: raihanmkt007@gmail.com
[4.] Principal, Government Rashidazzoha Mahile College, Sirajganj, Email: mki24@yahoo.com

"When planning assessment activities for a lesson or series of lessons, there is a tendency to focus on summative assessment rather than FA." The introduction of FA in Bangladesh represents a significant stride toward enhancing students' learning experience across all levels, including Grade Six. This novel initiative has the potential to offer teachers valuable insights into students' comprehension and retention of course material, enabling more personalized and effective teaching strategies. By integrating FA into the newly implemented curriculum, teachers can monitor students' progress more effectively and promptly address learning gaps. Overall, the adoption of FA holds great promise for improving academic outcomes and cultivating a more conducive learning environment for students in Bangladesh.

Despite the benefits of FA, there is currently no scope for its application in the prevailing public examinations in Bangladesh. To address this issue, the National Curriculum Framework 2021 directly emphasizes FA implementation at all levels of education in the country, from pre-primary to Grade 12. Specifically, the framework recommends evaluating 40% of students' academic activities using FA techniques at the Secondary School Certificate (SSC) level. This percentage is 30% at the Higher Secondary School Certificate (HSC) level. These changes are scheduled for 2025 and 2027, respectively (NCTB, 2021). Evaluating the newly introduced FA implementation scenario at any Grade through teachers' perceptions becomes essential in this context.

Statement of the Problem

"Examination and evaluation are regular systems through which a student's success in achieving the comprehensive goals of education is measured" (National Education Policy, p. 58). There are two types of assessment techniques: formative and summative assessment. Among these, FA plays an integral role in classroom instruction. It is designed to provide ongoing feedback to students and teachers regarding their learning progress and improve teaching and learning outcomes.

However, there is currently a lack of comprehensive evaluation measures in place to assess the effectiveness and impact of new FA techniques. The evaluation should determine whether FA is being implemented effectively and consistently across schools in Bangladesh. Additionally, it should assess whether teachers and students receive appropriate support and resources for FA tools. Lastly, the evaluation should examine whether the feedback generated from FA is being used to inform teaching practices and enhance student learning.

To enhance the creativity, skills, foresight, vision, sensitivity, adaptability, and humanity of the younger generation, as well as to prepare them as competent global citizens capable of facing the challenges posed by the 4th Industrial Revolution, the Bangladesh Government has undertaken the task of revising the National Curriculum through the National Curriculum Framework 2021. A significant historical change in the assessment system is the introduction of FA under this new curriculum (NCTB, 2021). While the National Curriculum and Textbook Board (NCTB) has already revised the textbooks for Grade Six and Grade Seven starting from the academic year 2023, the assessment framework for SSC and HSC levels is still under development.

The critical need now is to train competent teachers who can effectively implement the new curriculum and utilize FA techniques. While teacher training has already commenced, there remains a lack of visible initiatives to analyze the feasibility of implementing FA techniques or to assess teachers' perceptions of these techniques at the field level. Empirically supported data from the field is essential for designing effective training curricula for FA and developing overall implementation strategies.

Regrettably, very few studies have addressed the development of a suitable framework for FA within the recently introduced curriculum in Bangladesh. Without a thorough evaluation of the newly implemented FA, it will be difficult to ascertain its overall impact and effectiveness in enhancing educational outcomes under the newly introduced curriculum in 2022. Consequently, this study aims to illuminate these issues, with particular attention to teachers' perspectives on FA within the newly established curriculum framework in Bangladesh.

Significance of the Study

FA is gaining popularity in many countries due to its effective role in teaching and learning. Our study primarily focuses on evaluating the newly introduced FA within the context of new curriculum of Bangladesh. The study also provides an overview of FA. Data from 202 teachers were collected using a Google Form, and the responses were analyzed using both descriptive statistics and a regression model.

Our study provides an on-the-ground perspective of teachers' perceptions regarding FA. We have thoroughly reviewed existing studies related to this research problem. The findings from our study carry important implications for FA at Grade Six. Policymakers and future researchers can refer to this document.

In summary, this research has identified reliable methods for more effectively evaluating the newly introduced FA within Bangladesh's new curriculum. The study serves as a valuable resource for successful FA implementation, as it portrays teachers' perceptions at the field level. Furthermore, the study offers insights into teacher support, receptivity, understanding, and practice related to FA, providing helpful input for designing an effective FA implementation strategy.

Research Objectives

The study aims to evaluate the newly introduced FA implementation at grade VI in Bangladesh. To achieve this, we have defined three specific objectives:

a) to explore teachers' perception level from the viewpoint of Knowledge, Skill, and Attitudes (KSAs) for implementing FA at Grade Six.

b) to measure the relationship of different factors that influence the teachers' preferences for implementing the FA at Grade Six in Bangladesh.

c) to develop management techniques of newly introduced FA technique at Grade Six.

Limitations

Our study is not free from certain lacunas. Time and budget constraints may impact the study's overall quality. Gathering documents and instruments from the NCTB, other educational institutions, and the Ministry of Education (MoE) of Bangladesh are necessary but may pose challenges. Insufficient supports from the Directorate of Secondary and Higher Education (DSHE) and its regional offices could affect the study's credibility. The absence of Kay Informant Interview (KII) and Focus Group Discussion (FGD) may limit the depth of findings. The study's small sample size and potential heterogeneity could impact the results. Further research in this field should address these limitations.

2. Literature Review

FA refers to a wide variety of methods that teachers use to conduct in-process evaluations of student comprehension, learning needs, and academic progress during a lesson, unit, or course. The goal of FA is to collect detailed information that can be used to improve instruction and student learning while it is happing. Unlike summative assessments (which evaluate learning progress at the end of an instructional period), FA is integrated into the teaching and learning process. Examples of FA techniques include asking students to raise their hands if they understand a concept or having them complete self-assessments with teacher feedback. Initially, FA was not a recognized term. In 1963, Cronbach recommended enhancing course materials, and later in 1967, 'formative evaluation' was introduced by Scriven for educational programs (Thaçi & Sopi, 2022). Over time, attention shifted to what was happening in the classroom, leading to the adoption of FA to focus on student learning within the classroom (Rahman *et al.*, 2021). The Organization for Economic Cooperation and Development (OCED, 2022) highlighted that outstanding FA cases from secondary schools across various countries, including Canada, the UK, Finland, Italy, New Zealand, Australia, and Scotland. Volante and Beckett (2011) reported that self-assessment and peer-assessment of FA techniques improve students' understanding in elementary and secondary schools in Southern Ontario, Canada. Nieminen and Atjonen (2023) in their study report that proper utilization of FA techniques in Finland eliminates fear of problem solving of mathematics. The program for international student assessment (PISA) 2018 data from various countries showed that instructional adjustment performs well compared to sharing learning progressions and providing feedback (Yan *et al.*, 2021). Despite international consensus on the benefits of FA, the US context faces challenges due to standards-based reforms (Sharma, 2015).

As teachers, it is their responsibility to determine whether students understand the material being taught. Assessment techniques help teachers gauge the level of students' learning (Rasmitadila *et al.*, 2020). Assessment is an evaluative process that occurs at different levels of a task (Guangul *et al.*, 2020). According to Giacomazzi *et al.* (2022), it serves as the systematic basis for evaluating students' skills, assumptions, ideas, concepts, and problem-solving issues. Common forms of assessment worldwide include FA and summative assessment. FA has gained popularity in recent years (Sudakova *et al.*, 2022). It plays a critical role in educational practice by providing timely feedback during the learning process, aiming to enhance student learning (Morris *et al.*, 2021). Lee *et al.* (2020) described FA as a variety of methods used by teachers to evaluate student comprehension, learning needs, and academic

progress within a lesson, unit, or course. Notably, there is a significant difference between FA and summative assessment. Based on the narrow application of summative assessment techniques, Malhotra *et al.* (2023) argued that summative assessment occurs at the end of an instructional period. However, assessing competence and need-based learning effectively using summative techniques can be challenging. In contrast, FA techniques are ongoing, low-stakes, and responsive. They are well-suited for learning. Morris *et al.* (2021) highlight quick checks, self-assessment, peer review, and discussion participation as distinctive features of FA (Han & Fan, 2020). The common forms of FA include thumbs up, thumbs down, post-it notes, exit tickets, Google Form, reflective journals, graphic organizers, red and green cards, Kahoot, hand rising, digital pools, text messages, think-pair-share, and performance evaluate by using shapes such as circle, rectangle, or triangle (Lyon *et al.*, 2018; Anamalai & Yatim, 2019; Portela, 2020; Arthurs & Kowalski, 2022).

FA has numerous advantages. The objective of FA is to bring out the best in students as well the teachers (Cañadas, 2023). It improves teaching techniques, enhancing teachers' capacity to identify students' caliber (Nsabayezu *et al.*, 2023). A similar statement is also found in the study by Hooda *et al.* (2022), where they reported that FA enables teachers to gauge student understanding, allowing them to refine their teaching techniques and patterns. The FA does not rely on academic grades, marks, or report cards; it serves as a quick check to understand how students are performing almost every time (Barghaus *et al.*, 2023). Such assessment helps students identify their strengths and weakness, allowing them to target areas that need improvement (Sokhanvar *et al.*, 2021). It is suitable for learners' engagement, triangulation of facts and findings, blended learning, reflection on practice, self-assessment, objective establishment, and feedback loops (Iqbal *et al.*, 2021). Grassini (2023) suggested that this assessment aids in developing students' understanding of concepts, skills, or standards they may struggle with. It allows for adjustments to lessons and support. Min and He (2022) propose that this assessment enables teachers to evaluate students' listening, speaking, and reading skills within a short period. It also provides corrective guidelines and feedback. Alabidi *et al.* (2022) highlight that this assessment empowers learners to become self-regulated and autonomous. Teachers can adjust their instruction and strategies based on students' needs and interests. According to Seligman *et al.* (2021), FA creates a positive and supportive learning environment where mistakes are viewed as learning opportunity. Koka *et al.* (2023) emphasizes that this assessment techniques help students identify their misconceptions and clarifies concepts. They further report that FA allows students to reflect on their understanding of class topics or concepts.

Teachers utilize FA in their day-to-day classes to evaluate students at the end of every class (Staberg *et al.*, 2023). This approach involves simple instruction but emphasizes better strategies before processing to the next chapter or class (Dayal, 2021). Effective evaluation of ongoing FA techniques requires careful planning, implementation, and follow-up by teachers (Schidkamp *et al.*, 2020). According to Sinnema (2011), the main building blocks for evaluating the implementation of FA include (1) support: understanding the nature of support teachers encounter; (2) receptivity: assessing the extent to which teachers value FA; (3) understanding: exploring how teachers comprehend various techniques of FA; and (4)

practice opportunity: utilizing different tools for FA. Teachers should align their FA with learning objectives, employ a variety of techniques to gather evidence of student learning, and use data to inform their instruction and support students (Wylie & Lyon, 2015). Additionally, teachers must involve students in the FA processes by clarifying learning goals and criteria; encouraging self-assessment and peer feedback; and fostering a growth mindset and a culture of learning (Chan & Lee, 2021). Pre- and post- lecture assessment allow teachers to assess students' understanding of specific topics or concepts (Furtak *et al.*, 2016). FA is affected by teachers' teaching experience, training, length of class duration, institutional supports, gender, level of Education, categories of educational institution, location of educational institution, medium of instruction, and academic results (Al-Wassia *et al.*, 2015; Furtak *et al.*, 2016; Johnson *et al.*, 2019).

3. Conceptual Framework

A conceptual framework is a crucial component of academic inquiry. It includes key concepts, variavles, relationships, and assumptions that guide research. It provides a lens through which researchers can analyze and interpret data, establishing the theoretical underpinnings for their work. Constructing a conceptual framework involves an intricate interplay of theory and application. Being by dissecting the research title and questions, identifying underlying variables and other potential interconnections. The framework developed by Sinnema (2011) is similar to the one used in the "Monitoring and Evaluating Curriculum Implementation: Final Evaluation Report on the Implementation of the New Zealand Curriculum, 2009". This evaluation was guided by a theoretical framework comprising four elements: Support encounters, Receptivity, Understanding, and Practice (SERUP), as depicted in **Figure 1.**

Figure 1.
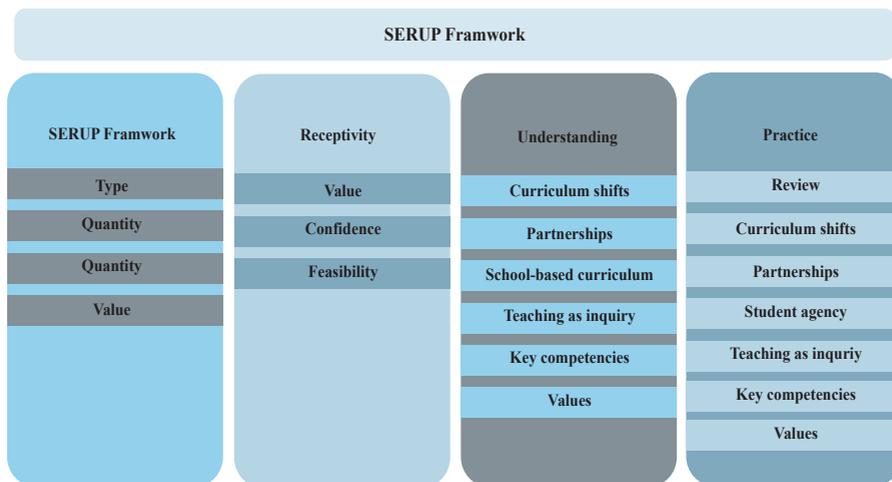
Figure 1. SERUP Framework

(Source: Adapted from Sinnema, 2011**)**

Teachers have encountered various kinds of support, including people within and beyond their schools, print publications, training, and online material. They perceive these supports to be valuable and of high quality. Similarly, teachers appreciate the curriculum, their confidence in implementing it within their own context, and the feasibility of implementation. Attention was given to how teachers understand key elements of the new curriculum. The updated curriculum places significantly greater emphasis on effective pedagogy, teaching as inquiry, and the development of key competencies. It also provides schools with more flexibility through locally designed curricula and emphasizes principles and values to guide teaching and learning programs. Evaluation tools prompted practitioners to report not only the extent and content of their implementation but also examined the underlying curriculum understandings. Particular interest was the alignment of these understandings with curriculum intentions expressed by experts involved in designing the curriculum. The primary rationale for the curriculum change is to enhance teaching and learning. Consequently, data on teaching practices in response to the new curriculum are also collected. Specifically, the extent to which practices aligned with the new curriculum's intentions is explored in both leaders' and teachers' practice. Practice items are designed to measure the nature of practices emphasized by teachers in their work with students, serving as indicators of realized curriculum intentions.

4. Research Methodology

Nature of the Study

For appropriate empirical evaluation, we employed methodological pluralism, also known as methodological triangulation, or mixed method research (MMR). MMR encompasses a variety of research tactics and approaches from broad assumptions to specialized methods for collecting, processing, and evaluating data. It is critical that qualitative and quantitative methods are not dichotomous, rigid classifications, or polar opposites. Rather, these are different places on a continuum. MMR is in the middle of this range since it incorporates elements of both qualitative and quantitative methodologies.

MMR is a method of inquiry that entails gathering data in two forms: quantitative (from questionnaires, FGD, open-ended questions, and qualitative interviews) and qualitative (from surveys, close-ended questions, and quantitative hypotheses). The two types of data are then integrated, and unique designs - which may incorporate theoretical frameworks and philosophical presumptions - are used to analyze the data. This type of inquiry's fundamental premise is that combining qualitative and quantitative methods yields a more thorough grasp of a study subject than each method working alone. It is ideal for sequential, concurrent, and transformative concerns and fits well with pragmatic knowledge assertions.

Procedures of Sampling

To determine the number of respondents with experience instructing of Grade Six students in public and private secondary schools across various educational boards in Bangladesh, we employed a random sample technique. Specifically, we used simple random sampling, which ensures that each component of the population has an equal chance of being selected for the sample. In this study, 385 secondary school teachers were invited to participate via chain mail. We reminded them to submit their responses via email, and 202 teachers (52.47% of the total) complied. However, a majority of respondents did not use the Google Form due to limited internet access or infrequent email checking. We collected email addresses from National Academy for Educational Management (NAEM) trainees, who are also teachers.

Data Collection Method

All the data were collected via Google Forms. Respondents received a four-page questionnaire in Bangla through a URL link, which was sent to their WhatsApp number, email, or Messenger. After receiving the link, respondents were requested to fill out the questionnaire thoroughly and return it to us. The data collection period was from January to April 2024. All respondents were school teachers from state-owned secondary schools and non-government schools, with teaching experience at Grade Six. Based on their responses in Google Forms, our selected teachers demonstrated awareness of FA.

Model Specification

A regression model was applied to evaluate the newly introduced FA implementation at Grade Six. The functional relationship between the outcome variables (teachers' practice) and explanatory variables, such as support receipt, receptivity, and teachers' understanding were examined. The coefficients of the regression model were estimated using the maximum likelihood method because it does not assume equal variance of the stochastic disturbance term and normality conditions for the distribution with mean zero and variance one. The maximum likelihood method is suitable for large samples, ensuring consistent and approximately normally distributed coefficient estimates in most cases. However, for small data sets, the maximum likelihood method may not yield significant results. In such cases, the likelihood ratio test is used to justify hypotheses, especially when dealing with large samples or data sets.

There are several methods to assess the linearity of a regression model. One such method is Ordinary Least Squares (OLS), which estimates the relationship between the outcome variable and explanatory variables in linear regression models. OLS was first attributed to the German mathematician Carl Friedrich Gauss. Under certain assumptions of linearity in parameters, fixed regressor values, a zero-mean distribution, homogeneity of variances, no serial or autocorrelation among disturbances, zero covariance between disturbance terms, and explanatory variables, a greater number of observations than parameters, variability in explanatory variables, and no specific bias-the relationship between dependent and independent variables can be estimated using OLS. This method possesses statistical properties like linearity, unbiasedness, and minimum variance, making it one of the most powerful and popular techniques in regression analysis.

Data Analysis

The collected data have been completed, tabulated, coded, and analyzed according to the objectives of our study. In this process, all responses from the Google Form were assigned numerical code values, which were then input into the Statistical Package for the Social Sciences (SPSS, Version 26). Once data entry was complete, the entire dataset was cleaned by generating frequency distributions for each question and examining outliers. Subsequently, a thorough review of a large number of completed Google Forms was conducted to identify and address any inconsistencies or outliers. At this stage, the data files were being prepared for final analysis.

The processed data were analyzed both statistically and empirically. The statistical analysis includes calculating frequencies, means, and standard deviations (SD) related to the socioeconomic-demographic (SED) characteristics of the respondents. Additionally, we explore the association of all variables with the evaluation of the newly introduced FA implementation at Grade Six in Bangladesh.

In the significance test, a test statistic and examines its sampling distribution under the null hypothesis. The test statistic is computed from the collected raw or primary data and obtained its P-value. The P-value gives the exact probability of obtaining the estimated test statistic under the null hypothesis. If this P-value is small, one can reject the null hypothesis, but if it is large, i.e., greater than 0.10 (10%) one cannot reject it. In attempting to formulate policy implications or research decisions, our study considers the P-value at the convenience level of significance at 0.01 (1%), 0.05 (5%), and 0.10 (10%), respectively.

5. Results and Discussion

Demographic Analysis

It is tried to cover all areas and types of teachers to ensure the participation of all diversification of teachers (Table 1).

Table 1. Demographic analysis (n = 202)

Factors		Frequency	Percent (%)
	Type of institution		
Government		48	23.8
Private		154	76.2
	Curriculum version		
Bangla		188	93.1
English		14	6.9
	Education board		
Barishal		19	9.4
Chittagong		33	16.3
Cumilla		07	3.5
Dhaka		29	14.4

Dinajpur		40	19.8
Jessore		16	7.9
Madrasha		15	7.4
Mymensingh		07	3.5
Rajshahi		31	15.3
Sylhet		05	2.5
Gender			
Male		136	67.3
Female		66	32.7
School location			
Union Level		73	36.1
Pourashova Level		13	6.4
City Corporation Level		35	17.3
Upazila Level		17	8.4
District Level		36	17.8
Division Level		28	13.9

The demographic analysis revealed that 154 teachers are from private institutions, while 48 are from government institutions. Additionally, 188 Bangla version teachers participated, compared to 14 teachers from the English version. Similarly, participation from 10 education boards and various areas was purposively ensured.

Overall implementation scenario from the four factors perspective

The implementation scenario for teacher support encompasses encounter, receptivity, understanding, and practices. We calculate the average of these four factors to determine the overall FA implementation scenario (see Table 2 for more details).

Table2. Descriptive statistics for overall score of four factors

Factors	Mean	SD
Overall Score of the Respondents	77.5475	13.15193
Score in Support Receipt	73.4059	19.38363
Score in Receptivity	82.3762	19.23660
Score in Teachers' Understanding	74.2011	11.24298
Score in Teachers' Practice	84.7857	17.06112

In Table 2, it is evident that although the overall average implementation is 77.55 %, there is a notable difference in Teachers' understanding and support receipt related to FA and receiving mentality. However, there efforts in participating FA are relatively higher than the other two factors.

For a compelling visualization of the implementation scenario, the scores across the four factors are divided into four different levels. Lower level includes 1-50%, moderate

level includes 51-70%, good level covers 71-90%, and outstanding level indicates 91-100%, respectively.

Implementation scenario of proposed factors at different levels

We found that only 19.8% of teachers receive an outstanding level of support, while 11.4% and 25.7% of teachers receive lower-level and moderate-level support, respectively (see **Table 3** for more details).

Table 3. Implementation scenario

Factors	Lower level (%)	Moderate level (%)	Good level (%)	Outstanding level (%)
Support Encounter level	11.4	25.7	43.1	19.8
Receptivity level	7.9	10.9	37.1	44.1
Understanding level	5.4	23.3	69.8	1.5
Practice level	5.9	12.4	37.1	44.6

To enhance the visibility and feasibility of the curriculum and ensure practical implementation, most teachers anticipate robust support. However, our findings revealed that they were not receiving the exceptional level of assistance they required. This encompasses logistical support, poster design, provision of mathematical equipment, laboratory guidance, ICT-oriented advice, and overall managerial support from higher authorities.

In terms of receptivity, 44.1% of teachers fall into the excellent level, while 37.1% fall into the good level. This indicates that most teachers are either actively embracing the new FA strategy or are open to adapting to this transformation.

It is noteworthy that only 1.5% of teachers demonstrate an outstanding understanding of FA. Unfortunately, most teachers have not fully grasped the newly introduced FA strategy. They struggle to comprehend the various guidelines and manuals associated with this approach. Additionally, some teachers have not even received copies of the FA guidelines. This lack of clarity extends to the training provided for FA.

Practically, 44.6% of teachers fall into the outstanding level. This includes not only those actively practicing FA but also those who have made multiple attempts despite facing challenges. It is encouraging that a moderate number of teachers are enthusiastic about implementing this strategy. However, as we previously observed, they still lack adequate support, and the new assessment approach remains somewhat unclear to them.

Subject-wise Implementation Scenario for FA

There are ten subjects in grades VI to X: Bangla, English, Mathematics, Science, History and Social Science, Digital Technology, Art & Crafts, Wellbeing, Life and Livelihood, and Religion Studies. The in-depth implementation scenario of FA was examined from the perspective of four factors across these ten subjects (Table 4).

Table 4. Support scenario in different subjects

Subject taught by teacher	Support receipt		Teachers' Receptivity		Teachers' Understanding		Teachers' Practice	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Bangla	75.73	22.28	80.80	21.61	73.05	12.65	82.55	20.05
English	71.83	19.40	85.00	14.55	73.51	10.20	84.72	14.21
Mathematics	69.50	18.70	80.63	19.96	73.26	11.37	85.00	16.20
Science	71.89	20.09	84.24	13.96	76.75	10.21	86.16	16.08
History and Social Science	74.38	18.27	79.68	21.73	73.82	12.17	85.32	17.29
Digital Technology	78.00	11.52	88.00	9.47	74.76	7.15	88.33	7.22
Wellbeing	80.00	18.18	100.00	0.00	82.14	4.88	100.00	0.00
Life & Livelihood	76.73	16.38	89.10	17.17	76.50	11.20	86.36	16.15
Arts & Craft	77.82	25.95	79.27	30.40	74.42	13.53	85.15	24.87
Religion Studies	71.14	17.76	77.71	18.94	70.51	10.68	77.14	17.33

Findings of our study indicate that Science, Mathematics, English, and Religion Studies teachers receive comparatively less support than their counterparts in other subjects. This finding aligns with previous research, which highlights insufficient support for Mathematical and Scientific instruments. On the other hand, Wellbeing teachers receive relatively better support, likely due to the nature of their activities not requiring laboratory equipment and being closely related to daily lifestyles. Similarly, in the realm of digital technology, most teachers are equipped with daily digital devices, and students' familiarity contributes to better support.

It has already been mentioned that receptivity refers to the willingness or ability to embrace the newly introduced FA. Research indicates that in almost every subject, teachers are either actively trying to receive the FA or possess the ability to do so. However, the critical factor lies in the support received for FA.

In terms of support encounters, teachers' understanding levels are comparatively lower in the subjects of Science, Mathematics, Religion Studies, English, and Bangla. Conversely, the score is relatively higher in the Wellbeing and Life & Livelihood subject. Notably, assessing English listening skills is relatively new, given that it includes a listening component. Additionally, in the case of mathematics and science, instructions for FA involving various projects and activities are not always clear and easily understandable.

It was mentioned earlier that practice refers not only to direct practice but also to teachers who are attempting to practice but cannot perfectly implement FA due to various obstacles. Regarding practice, it was found that teachers are attempting to practice in almost every subject, with a higher focus on the wellbeing subject. For more technically oriented subjects, such as Mathematics, Science, or English, teachers are also attempting to practice FA. However, they face challenges in implementing it perfectly due to a lack of clear understanding and insufficient support for FA-related activities or projects.

Implementation Scenario of Education Board for Newly Introduced FA

Ten education boards are present in Bangladesh. An attempt was made to look at the ways in which the education board affects the FA implementation scenario. Variance of analysis (ANOVA) is used to test this because there are ten boards (**Table 5**).

Table 5. Descriptive statistics for implementing scenario of FA under different board

Education boards	Maximum	Minimum	n	Mean	SD	95% Confidence interval	
						Lower bound	Upper bound
Barishal	94.67	29.33	19	75.2274	16.75053	67.1539	83.3009
Chittagong	92.67	28.00	33	76.3842	15.38457	70.9291	81.8394
Cumilla	89.33	60.00	7	77.3329	9.65271	68.4056	86.2601
Dhaka	92.00	43.33	29	77.6093	13.80596	72.3578	82.8608
Dinajpur	93.33	39.33	40	81.3828	10.70121	77.9603	84.8052
Jessore	90.00	53.33	16	77.6238	11.18971	71.6612	83.5863
Madrasah	94.67	70.67	15	83.4653	7.72251	79.1887	87.7419
Mymensingh	90.67	34.00	7	70.6686	20.47334	51.7339	89.6033
Rajshahi	92.67	44.67	31	74.9671	10.78255	71.0120	78.9222
Sylhet	92.67	58.67	5	70.9340	16.18475	50.8380	91.0300
Total	94.67	28.00	202	77.5475	13.15193	75.7229	79.3722

In Table 5, each row corresponds to a different education board in Bangladesh, such as Barishal, Chittagong, Cumilla, etc. The measures provided (maximum, minimum, mean, standard deviation, and confidence intervals) likely pertain to specific statistical or numerical data related to each education board. The mean value (83.4653) for the Bangladesh Madrasah Education Board suggests that teachers under this board perform well in implementing and assessing students' performance using the newly introduced FA. The 95% confidence interval for the mean lies between 79.1887 (lower bound) and 87.7419 (upper bound). This interval provides a range within which we can be reasonably confident that the true mean lies. In contrast, the situation is worse in the Mymensingh and Sylhet education boards due to their lowest mean values. The estimated result of the ANOVA indicates that the implementation scenario does not significantly vary across different education boards (as shown in Table 6).

Table 6. ANOVA for overall score of respondents under different board in Bangladesh.

	Sum of Squares	df	Mean Square	F	*P*-value
Between Groups	2017.477	9	224.164	1.314	0.232
Within Groups	32750.163	192	170.574		
Total	34767.641	201			

In Table 6, since the *P*-value is greater than 0.05, we can conclude that the implementation scenario does not significantly vary based on the implementation performance of different schools under Education Board. Therefore, it can be summarized that there is currently no significant variation in the FA implementation scenario across different education boards.

Econometric Model Estimation

Table 7 shows the econometric findings of our linear regression model. All of our proposed variables are assumed to be random parameters and normally distributed. We estimate the value of R-squared (goodness of fit) because of its overall appropriateness of the estimation. The value R-squared values larger than 0.20, on the other hand, indicate a well-fit model.

Table 7. Result of estimated regression model for newly introduced FA

Variables	Coefficients	Std. Error	P-value	VIF
Constant	-6.830	4.289	0.113	
Score in support receipt	0.209	0.041	0.000	1.548
Score in receptivity	0.130	0.052	0.013	2.483
Score in teachers' understanding	0.884	0.085	0.000	2.269
Goodness of fit (R-squared)	0.727			
Adjusted R-squared	0.723			
Observations (n)	202			

a. Dependent variable: Score in teachers' practice

b. Predictors: Constant, Score in teachers' understanding, Score in support receipt, score in receptivity

Among the three explanatory variables - support encounter, receptivity, and understanding - are significant at a 5% level. Therefore, it can be opined that, for the one-unit increase in support receipt, the practice of FA will be increased by 0.20 units. Likewise, for one unit increase in receptivity and teachers' understanding, the practice of FA will increase by 0.13 and 0.88 units, respectively.

Regarding the model's summary, R-squared 0.72 was found, which implies that explanatory power of our model is good. Regarding multicollinearity, since all the factors' Variance Inflation Factor (VIF) is less than 10, there in no multicollinearity problem.

6. Conclusions and Recommendations

The introduction of FA at Grade Six curriculum marks a significant shift from traditional assessment methods. This new approach emphasizes continuous assessment and feedback, aiming to enhance student learning and academic performance. To ensure the successful implementation of FA, it is essential to consider a range of policy options that address the challenges and leverage the opportunities inherent in this educational reform.

One of the primary policy options is to invest in comprehensive teacher training and professional development programs. These programs should focus on equipping teachers with the necessary skills and knowledge to effective design and administer FA. Additionally, ongoing support and research should be provided to facilitate the integration of FA techniques into daily teaching practices.

The curriculum needs to aligned with the principles of FA. This involves creating a flexible instructional design that allows for the incorporation of various FA strategies, such as peer assignments, self-evaluations, and regular feedback sessions. The curriculum should also include learning objectives and outcomes that can be measured through FA.

Developing and disseminating a range of assessment tools and resources are crucial. These tools should be tailored to the specific needs of Grade Six students and should be culturally relevant and linguistically appropriate. Resources may include rubrics, checklists, and exemplars that guide teachers and students in the assessment process.

Establishing a robust monitoring and evaluation framework is essential to track the effectiveness of FA practices. This framework should include mechanisms for collecting and analyzing data on student performance, teacher practices, and overall educational outcomes. Feedback from this framework can inform continuous improvement and policy adjustments.

Engaging all stakeholders, including students, parents, educators, and policy makers, is vital for the success of FA implementation. Effective communication strategies should be employed to raise awareness about the benefits of FA and to garner support from the broader educational community.

The adoption of AF at Grade Six in Bangladesh presents an opportunity to transform the educational experience for teachers and students. By considering these policy options, stakeholders can work collaboratively to create a conductive environment for FA, ultimately leading to improved educational outcomes and a more dynamic learning process.

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The Effect of Transformational, Autocratic, Democratic, and *Laissez-faire* Leadership on Teachers' Performance: A Study on Selective Government Colleges at Rajshahi and Dhaka Divisions in Bangladesh

Dr. Sushanta Roy Chowdhary[1]
Dr. Md. Seraj Uddin[2]
Mojzammal Hoque[3]
Md. Mominul Islam[4]

Abstract

The present study aims to measure the leadership styles (transformational, autocratic, democratic, and laissez-fair leadership) and their effect on teachers' performance at the selective government colleges at Rajshahi and Dhaka divisions in Bangladesh. A descriptive research design with a quantitative approach in which the structured survey questionnaire with five-point Likert scale was employed for data collection. The target population was 2151 teachers in government colleges. Sample size was 92 and simple random sampling technique was used in this study. The Composite Reliability (CR) was 0.895 to 0.954 and Average Variance Extracted (AVE) was 0.587 to 0.775 of the variables. A structural equation model is adopted in this study. SPSS version 20 and Smart PLS are used for data analysis. The study found that the autocratic leadership style is moderately widely used by the principals of government colleges. It has a more significant effect on the performance of the teachers. Democratic and Transformational leadership are lower used by the principals. Laissez-fair leadership is less applied. Democratic, Laissez-fair, and Transformational leadership have no significant effect on teachers' performance. Under the leadership styles, the teachers' performance is at a medium level at the government colleges in Bangladesh. This study suggests that principals in government colleges should increase their use of democratic and transformational leadership styles to boost up teachers' performance to the highest possible degree. This study will support to develop the policy of workshop and training for principals and teachers.

Key words: Leadership, Autocratic Leadership, Democratic Leadership, Transformational Leadership, *Laissez-fair* Leadership, Teachers' Performance

[1.] Dr. Sushanta Roy Chowdhary, Associate Professor, Department of Management, Rajshahi College, Rajshahi, ORCID iD: 0000-0003-2212-0380, E-mail: sushantachowdhary75@gmail.com

[2.] Dr. Md. Seraj Uddin, Professor & Head of the Department, Department of Management, Rajshahi College, Rajshahi, E-mail: dr.seraj1os@gmail.com

[3.] Mojzammal Hoque, Assistant Director, Planning and Development, NAEM

[4.] Md. Mominul Islam, Lecturer, Department of Management, Rajshahi College, Rajshahi, Email: ananto.anto@gmail.com

1.1 Introduction

Bangladesh is a developing country. Like other developing countries, they try to give important attention to the sustainable development of the education field (Khaydarov & Haydarova, 2020). In the globalization era, education can be inclined to support national economic development. Teachers can ensure the achievement of the national objectives of education.

Government Colleges are important educational institutes in Bangladesh. Most government colleges are operating higher secondary certificate (HSC), undergraduate, and postgraduate programs. Principals of government colleges work as teachers, educational leaders, and public servants. The principal is an education leader who must be responsible for achieving the targeted progress of his/her institute (Astuti *et al.*, 2019). Efficient educational leadership is needed for achieving educational missions and visions that are helpful to ensure quality education.

Teachers are the key employee of educational institutions and an organization's success largely depends on teachers' performance (Maesyaroh *et al.*, 2020). The teacher teaches to switch knowledge, lifestyle experience, operating methods, and the ethical and cultural improvement of the students (Khaydarov & Haydarova, 2020). Leadership helps to enhance teachers' performance.

Leadership is a universal process that involves motivating followers to work toward a shared objective. Transformational leadership refers to a leader's ability to influence subordinates in certain ways (Sunarsih, 2001). Transformational leadership involves persuading subordinates to achieve desired goals, modifying followers' attitudes and fundamental values, and increasing trust or confidence, all of which have an impact on employee performance (Maesyaroh *et al.*, 2020; Sunarsih, 2001). This leadership style has a positive effect on staff performance (Maesyaroh *et al.*, 2020). An autocratic leader tends to consolidate power and gain control over incentives and coercion. According to Wu and Shiu (2009), authoritarian leadership can be established by threats, demands, orders, rules, and regulations. The democratic leadership style is characterized by participation leadership, in which the leader solicits with team members before making decisions that would help the group reach its goals. This type of leadership refers to circumstances where a leader asks a subordinate for feedback before making a choice (Aunga & Masare, 2017). The laissez-faire style, also known as hands-off leadership, is one in which the manager gives staff members the least amount of guidance and the most independence feasibly (Aunga & Masare, 2017). The freedom to perform their jobs without being directly overseen is provided by laissez-faire leaders, who have less authority over their staff (Wu & Shiu, 2009). Additionally, Transformational, autocratic, democratic, and laissez-faire leadership styles both direct and indirect effects on educational performance and there are applied to different problem-solving situations (Hallinger *et al.*, 1996).

In the above discussion and based on the present situation, the researchers are interested to study "measuring the transformational, autocratic, democratic, and laissez-faire leadership styles and their effect on teachers' performance at the selective government college at Rajshahi and Dhaka divisions in Bangladesh."

1.2 Statement of the problem

The Education Ministry of Bangladesh is committed to improving the quality of education. But the existing performance does not reach an acceptable level. Generally, institutional performance depends on the principals as well as the teachers' performance. Besides, no endeavor has ever been made in Bangladesh to examine the effect of leadership style on teacher performance.

There is insufficient data and knowledge regarding the practiced leadership styles of principals of government colleges in Bangladesh. Previous research related to transformational, autocratic, democratic, laissez-faire, and employee performance has been widely applied in various business sectors, both academic, communications, and government, but does not apply to education management. This research is a renewal because it covers all the variables mentioned above that are related to government colleges in Bangladesh. Based on the background information and the discussion above, the following issues can be identified:

Which leadership styles are practiced at Bangladesh's government colleges, and how do transformational, autocratic, democratic, and *laissez-faire* leadership affect teachers' performance there?

1.3 Rationale of the Study

Institutions require visionary leaders for fundamental and transformational change so that they can implement the change with an alteration in the attitudes and beliefs of staff in their institute. However, in most cases, the authorities of government colleges in Bangladesh cannot think of this meaningful change phenomenon, and they generally face obstacles for teachers and students to change. Changing leadership is essential in these educational institutions. The application of the transformational leadership style is required in educational organizations because a transformational leader can imagine new concepts and visions that offer the educational institution a new pathway to progress and success.

Only one leadership style is not sufficient for operating an institute. Many academics have noted that blended leadership styles (transformational, autocratic, democratic, and laissez-faire) might improve employee performance. The researchers make an effort to carry out this investigation in light of this. The result of the project can help develop national educational policy and improve teacher and principal training qualities. It will be helpful to enhance employee performance and the quality of education with a sustainable development goal.

1.4 Objectives

The main objective of this research is to measure the leadership styles (transformational, autocratic, democratic, and laissez-faire leadership) and their effect on teachers' performance at the selective government colleges in Rajshahi and Dhaka divisions in Bangladesh.

The specific objectives of the study are as follows:

i)   To measure the leadership styles of principals of selected government colleges in Bangladesh;

ii) To identify the effect of Transformational Leadership on teachers' Performance;

iii) To evaluate the effect of Autocratic Leadership on teachers' Performance;

iv) To assess the effect of Democratic Leadership on teachers' Performance;

v)   To appraise the effect of Laissez-Fair Leadership on teachers' Performance.

1.5 Research Questions

i)   Which leadership styles are more practiced by the principals of selected government colleges in Bangladesh?

ii) How does transformational leadership affect teachers' performance?

iii) What is the impact of autocratic leadership on teachers' performance?

iv) How does democratic leadership influence teachers' performance?

v)   What effect does laissez-faire leadership have on teachers' performance?

1.6 Limitations of the Study

Time is the major limitation of this study. Technical and vocational colleges at the higher secondary level and private colleges are not considered in this study.

2.0 Review of Literature

2.1 Leadership Concept

A leader's leadership style is a collection of traits used to persuade followers to work toward corporate objectives (Rivai, 2008). Leadership is the process of persuading individuals to focus their efforts on achieving predetermined goals (Asika, 2004). However, an organization's leadership should be able to persuade its members to work voluntarily toward achieving objectives and organize the operations of the company in a way that allows employees to meet both professional and personal objectives.

2.2 Transformational Leadership

Transformational leadership is a strategy for accomplishing group goals through the fusion of mutually advantageous motives held by leaders and subordinates to effect the necessary change (Cho *et al.*, 2022). The four characteristics of transformational leadership are idealized influence, inspiring motivation, intellectual stimulation, and individual consideration (Bass and Avolio, 1990). Transformational leadership has a meaningful direct significant impact on employee performance (Yanto & Ablia, 2021; Maesyaroh *et al.*, 2020). However, leadership style did not significantly affect work performance (Noviyanti *et al.*, 2019; Paais & Pattiruhu, 2020).

2.3 Autocratic Leadership

Autocratic or authoritarian leadership is established through punishment, threats, demands, orders, rules, and regulations (Wu and Shiu, 2009). This type of leadership involves the leader making all the decisions. In an autocratic leadership style, the leader has complete control over the decision-making process. Employee performance is positively impacted by an autocratic leadership style (Al-Shurafa, 2018). The job performance of administrative heads was significantly predicted by their autocratic leadership style (Igunnu, 2020; Dastane, 2020). However, in the study on restaurants in Bangladesh, authoritarian leadership significantly damaged the organizational environment (Jony *et al.*, 2019). The performance of the teacher is not significantly impacted by the teacher's authoritarian leadership style (Astuti *et al.*, 2019).

2.4 Democratic Leadership

Democratic leadership, also known as participatory leadership or shared leadership, refers to a situation where both the leader and followers are contributing equally (Sarwar *et al.*, 2022). In a democratic leadership style, every team member actively contributes to organizational decision-making, and the leader ultimately makes decisions based on group participation (Bhatti *et al.*, 2012). Employee performance is positively correlated with democratic leadership (Al-Shurafa, 2018; Dastane, 2020). There is a considerable relationship between a teacher's performance and their democratic leadership style (Astuti *et al.*, 2019). A study on restaurants in Bangladesh found that democratic leadership has a significant positive effect on the effectiveness of the organization (Jony *et al.*, 2019). Among administrative chiefs, a democratic leadership style had a considerable impact on job performance (Igunnu, 2020).

2.5 *Laissez-Faire* Leadership

Laissez-faire leadership, also known as "hands-off leadership," is a leadership approach in which group members are given the freedom to make decisions but leaders remain proactive (Cherry, 2019). Laissez-faire leadership delegates tasks to other team members and refrains from participating in organizational decision-making (Chaudhary & Javed, 2012). This leadership style allows for more independence within the business and involves less information, direction, and guidance for the workers. Employee performance is significantly improved by laissez-faire leadership (Al-Shurafa, 2018; Dastane, 2020). There is no discernible correlation between the teachers' performance and the headmasters' laissez-faire approach (Astuti *et al.*, 2019). On the other hand, in Bangladeshi restaurants, the laissez-faire management approach has no impact on the organization's performance (Jony *et al.*, 2019).

2.6 Teachers' Performance/Employee Performance

Performance is the overall outcome or success of an individual during particular times of duty in relation to the necessary degree of effort, the specified goals, or the established standards (Rivai, 2008). Internal and external factors influence employee performance (Wirawan, 2015). Yanto & Aulia (2021) follow Wirawan (2015) in dividing worker performance into three categories: individual behavior, job behavior, and outcomes of work. The ability to accomplish duties and obligations based on knowledge and performance indicators determines

an employee's performance. Workplace behavior, individual behavior, and work results are all significant dimensions.

2.7 Conceptual Framework
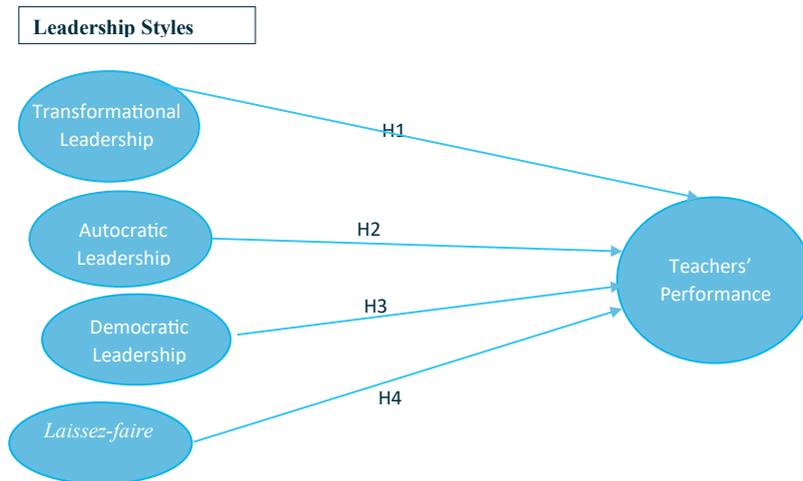
Figure 1: The Conceptual Framework Model for Measuring Leadership Styles of Principals and Their Effect on Teachers' Performance and Relationship among Constructs

2.8 Formulation of Hypotheses

The following hypotheses were created with reference to related literature and based on logical construction. All hypotheses will be tested.

H1. Transformational leadership has a positive effect on teachers' performance.

H2. Autocratic leadership has a positive effect on teachers' performance.

H3. Democratic leadership has a positive effect on teachers' performance.

H4. *Laissez-faire* leadership has a positive effect on teachers' performance.

3.1 Research design

To achieve its goals, this study used a descriptive research design. A descriptive research design refers to a framework for doing research as well as a manual for gathering data for a study (Creswell & Creswell, 2017). It is appropriate since it reduces bias and boosts reliability. In light of this, the design is suitable for data gathering, classification, analysis, and interpretation.

3.2 The Research Method

The researchers in this study adopted a quantitative approach. The study's problem is especially important as a determinant of the kind of study method that might be useful. A

quantitative approach may be more suitable if it is practical to specify hypotheses in advance (Dreachslin *et al.*, 1993). The researchers believe that this method is most suitable for the assignment because this study is grounded in human experience and quantitative variables.

3.3 Target population

In this study, researchers purposely selected a total of 20 government colleges from 10 Rajshahi and 10 Dhaka divisions. The target population comprised 2151 teachers from those 20 government colleges in which samples were collected for the study. The researchers collected an approximate list of teachers at the targeted government colleges in 2022.

3.4 Sampling Procedures and Sample Size

The study used a probability random sampling approach to choose the instructor sample size, ensuring that each participant had an equal chance. The sample size was calculated using the following formula (Kalton, 1983):

$$n_0 = \frac{z^2 \times p \times q}{a^2} = 96$$

$$n = \frac{n_0}{1 + (n_0 - 1)/N}$$

Where, n0= primary estimated sample size; p=the probability; researchers have not found any probability ratio in the previous research on Bangladesh in this field. The reverse probability is given by q = (1-p), the area under the standard normal curve is defined by z, the desired level of precision is given by a, the population size is given by N, and the sample size is given by n.

N =2151; Let, P=0 .5, q= (1-0.5) = 0 .5, Z=1.96

$$n_0 = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.10)^2} = 96$$

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}} = \frac{96}{1 + \frac{96 - 1}{2151}} = 92$$

3.5 Data collection

In this research, the data collection was carried out through one structured survey questionnaire. Researchers developed the questionnaires on the basis of review of the literature. The survey questions for the study were measured on an interval scale of five points. Following a three-month period (November 2022 to January 2023), survey questionnaires were administered, hand-delivered to respondents, and then collected.

3.6 Data collection source

The researchers used both primary and secondary sources of information. The teachers of a few government colleges provided the original data. Secondary data for this study were gathered from a variety of published reports, books, journals, and conference papers.

3.6.1 Instruments of data collection

The researchers had attentively designed the survey questionnaire for teachers with the help of a review of the literature and some special researchers such as Bass and Avolio (1990), Carless *et al.* (2000), and Wirawan (2015). The tools from the five points Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree) had been added to this study. The survey questionnaire was finalized after piloting.

3.6.2 Data analysis techniques and Presentation

Data were rigorously examined, reviewed, tabulated, and analyzed after being collected from the research region using survey questionnaires. For data analysis in this study, the researchers used SPSS Version 20 and Smart PLS 3. Presentation tables and figures were used for the drawing of the results, along with descriptive statistics such as frequency distribution, mean, percentages, and standard deviation, to further examine the results and demonstrate the level of significance in testing the stated hypotheses, R and f square with the structural equation model.

3.6.3 Reflective Measurement Models

In this study, the reflective measurement model was used to model each construct. The reflective measurement methodology included measurements for teacher performance (TP), autocratic leadership (AL), democratic leadership (DL), laissez-faire leadership (LFL), and transformational leadership (TL).

3.7 Composite Reliability (CR) and Average Variance Extracted (AVE)

Table 1: Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Teachers' Perception (N=92)			
	Cronbach's Alpha	*Rho_A*	*Composite Reliability*	*Average Variance Extracted (AVE)*
AL	.860	.876	.895	.587
DL	.942	.949	.954	.775
LFL	.902	.910	.924	.671
TP	.920	.928	.933	.609
TL	.899	.922	.921	.661

Composite Reliability (CR) for reliability testing and Average Variance Extracted (AVE) for validity are calculated by using smart PLS 3 software. According to Hair *et al.* (2017), the CR, which measures internal reliability, must be greater than 0.7, and a valid instrument has

an average variance extracted (AVE) value greater than 0.5. From table-1, CR ratings were higher than 0.895 to 0.954 and AVE values were 0.587 to 0.775. As a result, this study meets the criteria of being significantly reliable and valid.

3.8 Ethical considerations

The purpose and nature of the research were explained to each respondent in this study both verbally and in writing. Their participation in the study was fully voluntary, and they might discontinue at any moment. Data security and confidentiality are also ensured.

4.0 Results and Discussion

4.1 Demographic data

67.4% male and 32.4% female teachers are given data. 38% of professors, 26.1% of associate professors, 18.5% of assistant professors, and 18.5% of lecturers are provided with the information in this study.

4.2 Position of Leadership Style

Table 2: Measuring the Leadership Style

Variable	Items	Mean	Std. Deviation	Decision
Transformational Leadership (TL)	6	3.65	.796	Slightly Use
Autocratic Leadership (AL)	6	3.83	.588	Moderately High level
Democratic Leadership (DL)	6	3.65	.836	Slightly Use
Laissez-faire Leadership (LFL)	6	3.32	.854	Less Use
Teachers' Performance (TP)	9	3.77	.657	Moderately Good

Source: Field Survey, 2023

This study found that college principals apply moderately high level autocratic leadership to operate their colleges. This result is supported by Warmana *et al.* (2021). General teachers do not like the autocratic leadership. But it is very useful when prompt and massive decisions are needed. At the present time, the teaching-learning process and environment are rapidly changing at the college level. So, principals have to apply autocratic leadership to the development of the college's education.

In this study, it was found that the democratic leadership style is slightly used by principals. The result is not supported by Imhangbe *et al.* (2019). This outcome demonstrates that the GC principals are not regularly and consistently implementing this leadership. Teachers perform better when principals involve them in decision-making, speak with them politely, and properly assign their duties (Sarwar *et al.*, 2022).

In contrast, this study revealed that the laissez-faire leadership style is less used by principals at GC. This result is supported by Lumumba *et al.* (2021). Sarwar *et al.* (2022) stated that the laissez-faire leadership of the college principal was identified as unhelpful to the performance of teachers.

It is found that the transformational leadership is less used by the principal. This result is supported by the findings of Paais & Pattiruhu (2020).

It is found that teachers' performance is moderately good. Teachers' performance is needed higher level for developing educational institutions. Teachers' performance is helpful for quality education (Sugeng, 2022).

4.3 Measurement Model

Measurement Model (Outer Loadings)
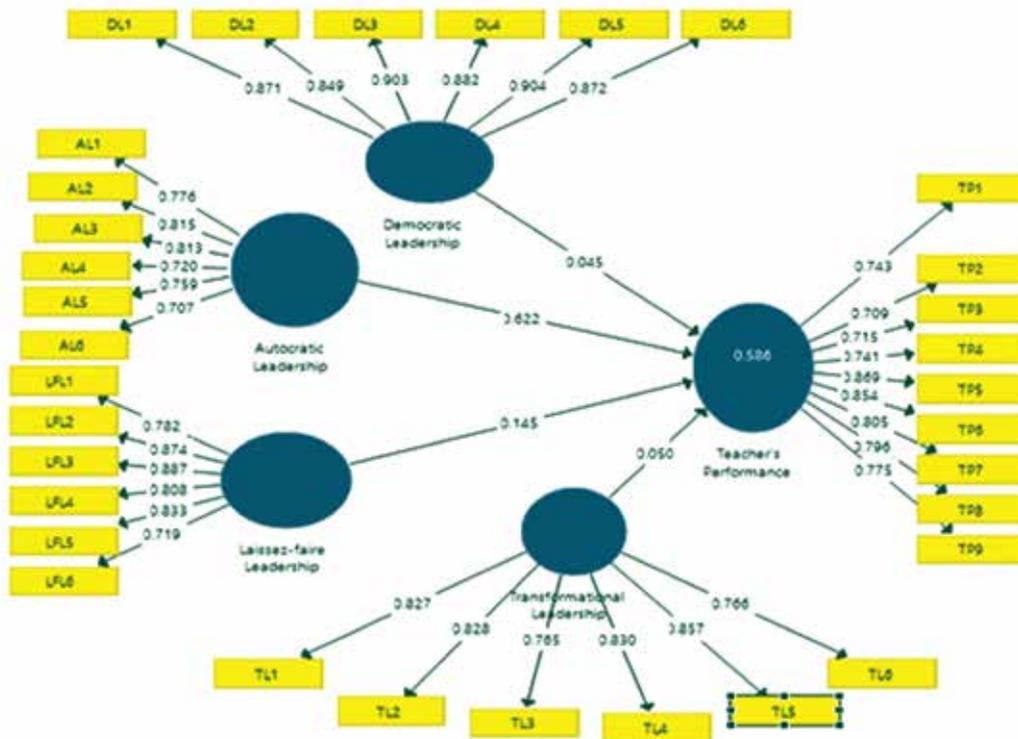
Figure 2: Measurement model (n=92); Source: Results of Smart PLS Output 3

[Measurement model of Framework {Democratic Leadership, Autocratic Leadership, Laissez-fair Leadership, Transformational Leadership, Teachers' Performance, Notes: DL = Democratic Leadership, AL= Autocratic Leadership, LFL= *Laissez-fair* Leadership, TL= Transformational Leadership, TP= Teachers' Performance}]

The loading coefficients are produced for the measurement (outer) model. The correlations between the construct and the indicator variable in reflective models are known as loadings. In this study, all item loading values in teachers (Figure 2) were higher than 0.7. Usually, in confirmatory PLS factor analysis, loadings have to be 0.7 or higher to affirm that the indicator variables recognized a priori are represented by a specific construct (Garson, 2016). Therefore, the result of the external (outer) loadings of every indicator to peer into the extent of validity of the signs and compliance with the individual reliability of the indicators is proven in those tables.

4.4 Analysis of Coefficient of Determination (R2)

Table 3: Coefficient of Determination (R^2) for TP

Teacher's Point of View			
Construct	*R Square*	*R Square Adjusted*	*Comment*
TP	0.586	0.567	Model Moderately accuracy

Source: Field Survey, 2023

Table 3 indicates that the coefficient of determination (R2) is the measurement of a model's analytical accuracy. The predictors of teachers' performance (TP) explained a 58.6% variance in leadership practices in government colleges. According to Hair *et al.* (2017), an R2 value of 0.75 is substantial, 0.50 is moderate, and 0.25 is weak. Based on these recommendations, the R2 (0.586) indicates that this model is moderately accurate.

4.5 Effect Size (f^2)

Table 4: Effect size (f2)

Hypothesis	Relations	Effect size(f^2)	Remarks
H1	TL $\rightarrow$ TP	0.002	Not effect
H2	AL$\rightarrow$ TP	0.649	**High effect**
H3	DL $\rightarrow$ TP	0.002	No effect
H4	LFL $\rightarrow$ TP	0.016	Not effect

Source: Field Survey, 2023

Table 4 shows TL has on effect on TP (H1). AL has an effect on TP (H2). DL has no effect on TP. LFL has no effect on TP. According to Cohen (1988), a "small" f2 effect size is defined as greater than.02, a "medium" effect as greater than.15, and a "high" effect as greater than.35. Teachers exhibit a blending effect in the relationship between constructs.

4.6 Summary of Hypotheses Testing

Table 5: Result of Path Coefficients (Mean, STDEV, T-value)

Hypothesis	Direct Path	Original Sample(O)	Sample Mean(M)	Standard Deviation(STDEV)	T Statistics (|O/ STDEV|)	P Values	Decision
H1	TL->TP	0.050	0.071	0.135	0.370	0.356	Not Supported
H2	AL->TP	0.622	0.620	0.085	7.323**	0.000	**Supported**
H3	DL->TP	0.045	0.050	0.124	0.363	0.358	Not Supported
H4	LFL> TP	0.145	0.124	0.124	1.175	0.120	Not Supported
Note: ** P< 0.01, *P<0.05 (based on one-tailed test with 5000 bootstrapping)							

Source: Field Survey, 2023

The finding from this study is that transformational leadership is positively insignificant to the teachers' performance (H1). This finding is associated with prior research (Noviyanti

et al., 2019; Paais & Pattiruhu, 2020). Transformational leadership is motivational leadership. But the principals of GC do not significantly apply this leadership to their college management.

This study found that AL has a positively significant effect on TP (H2). This finding has been supported by previous research (Al-Shurafa, 2018 & Igunnu, 2020). This result revealed that the principals of GC frequently apply the most autocratic leadership style in their college administration. In spite of some limitations, this style is helpful for quick decisions by college management and the modernization of the teaching-learning process.

The findings indicate that the DL has a positive but insignificant effect on TP (H3). This finding is not supported by the research (Al-Shurafa, 2018; Dastane, 2020). Democratic leadership is participatory leadership. But the principals of GC do not significantly apply this leadership to their college management.

The findings indicate that the LFL has a positive but insignificant effect on TP (H4)). This finding is supported by the findings of the studies of Basit *et al.* (2017). This finding is not supported by the research (Jony *et al.*, 2019). Principals of GC do not significantly apply this leadership to their college management.

4.7 Conclusion and Recommendation

The study aims to evaluate several leadership styles (transformational, authoritarian, democratic, and laissez-faire) and how they affect teachers' performance at the selected government colleges of Rajshahi and Dhaka divisions in Bangladesh. Using quantitative method, it is found that the majority of government college principals exercise moderately high level autocratic leadership and this leadership has more significantly impact on the TP. Democratic leadership is slightly applied, and it has no significant impact on TP. Laissez-faire leadership is less used, and this leadership has no effect on teachers' performance. Transformational leadership is less commonly used, and this leadership has no effect on teachers' performance. The teacher's performance at Bangladesh's Govt. College is moderately good. Using a single leadership style, principals are unable to meet organizational objectives and raise teacher performance. To achieve overall institutional goals for the long-term sustainability of educational development, a suitable blend of attributes and leadership styles would be used.

Principals, along with teachers, will need to be trained on various leadership styles, administration, and the application of strategies. For developing teacher performance, transformational and democratic leadership styles might be followed. This study will help develop the policy for leadership-related workshops and training modules. It will also help to reform NAEM and other training institutes.

5. Acknowledgement:

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An Investigative Study to Identify the Barriers to Teach Grammar Communicatively at the Higher Secondary Level of Bangladesh

Adnan Hossain [1]
Sourav Adhikary [2]
Md Al Amin[3]
Md. Safayet Alam [4]

Abstract

This study explored the barriers to teach grammar communicatively at the higher secondary level in Bangladesh. Grammar is still taught using a traditional strategy that emphasizes on memorization of rules over helping students become competent communicators. A mixed-methods approach has been used in this study, which includes a survey of 306 higher secondary English teachers followed by semi-structured interviews with selected participants, documents analysis and classroom observations. The findings highlight several key barriers that stand against teaching grammar communicatively including insufficient resources for communicative activities, lack of competent teachers, and traditional teacher-centered and exam-oriented teaching. Unfortunately, completion of the syllabus is frequently given priority by teachers above the communication requirements of the students, which causes a gap between grammatical knowledge and pragmatic communication. Moreover, the study also identifies the persistent use of the Grammar Translation Method (GTM) in case of teaching grammar as one of the significant barriers to teach grammar communicatively. To address these issues, the study recommends comprehensive professional development programs for teachers, ensuring required resource allocation, and fostering collaborative learning that integrate communicative methods in teaching grammar. The findings aim to inform policymakers, teacher educators, and classroom practitioners, advocating for a shift towards more effective grammar teaching approaches that foster students' abilities to use English communicatively. This research contributes to the ongoing dialogue on improving English language education in Bangladesh and highlights the urgency for strategic interventions.

Key-words: Communicative language teaching (CLT), Grammar Translation Method (GTM), language-education, higher secondary level, Bangladesh

[1] Assistant Professor (English), Dhaka College, Email: adnanh141@gmail.com
[2] Lecturer, Govt. Teachers' Training College, Khulna
[3] Associate Professor, Department of English & Humanities, BRAC University, Email: al.amin@bracu.ac.bd
[4] Associate Professor, Department of Physics, Directorate of Secondary and Higher Education, Ministry of Education, Dhaka

Introduction

In Bangladesh, the higher secondary level (HSC) consists of Classes XI and XII. After the completion of these classes, students attend a high-stake public examination called Higher Secondary Certificate (HSC) examination. Although secondary and higher secondary curriculum and education policy have mandated a communicative approach in case of teaching English, Grammar-Translation Method (GTM) is still the most used method in case of teaching English. The introduction of Communicative Language Teaching (CLT) has brought little change in the prevailing teaching practices in Bangladesh.

Grammar is considered as an important skill in case of language learning and usually refers to as fifth skill (Larsen-Freeman, 2003) along with reading, writing, speaking and listening. Unfortunately, at the higher secondary level in case of teaching grammar, the teachers actually focus on their own targets of completing the syllabus and therefore they formulate their strategies according to their own preferences. In case of teaching grammar, the main focus remains what would be important for the examination and very little attention is paid to teach how to use grammar in the real-life context.

In the published literature in Bangladesh context and in the media, it is reported that there are various obstacles that prevent teachers from teaching grammar communicatively. Therefore, identifying the main obstacles that prevent teachers from teaching grammar communicatively would be the first step to implement teaching grammar communicatively. To address the issue, this study explored the obstacles that stand against teaching grammar communicatively in the context of the higher secondary level (HSC) of our country as well as to find a probable solution of this issue.

Statement of the problem

Since the introduction of communicative approach to language teaching in secondary and higher secondary level in Bangladesh, there has been a continuous debate about the role of grammar and the manner grammar should be taught and assessed. Towards the beginning of CLT in Bangladesh, grammar was not assessed explicitly in the secondary and higher secondary level. However, there was an outcry from the academics that students fail to write correct sentences. Therefore, grammar was re-introduced in the syllabus and in high-stake tests at the secondary and higher secondary level.

Consequently, despite efforts to promote communicative language teaching (CLT) in Bangladesh, grammar instruction at the higher secondary level is still largely focused on the traditional approach. This approach emphasizes memorization of grammar rules and structures without much emphasis on communicative competence. As a result, students often struggle to communicate effectively in English despite having a strong grasp of grammar. Therefore, this study investigates the barriers that prevent teachers from implementing CLT and potential solutions to overcome these barriers.

This study explores the following research questions:

1. What are the main barriers to teach grammar communicatively at the higher secondary level in Bangladesh?

2. What could be an effective way to teach English grammar communicatively at the higher secondary level in Bangladesh?

Review of Literature

Grammar Translation method (GTM) was the prevalent method of teaching English since the start of teaching English in Bangladesh (Choudhury, 2010; Rasheed, 2017). In developing countries like Bangladesh where smart classrooms and other technical facilities are difficult to afford; GTM could be a feasible language teaching method. As the classes are primarily conducted in student's first language in GTM method, to some extent it is easy for the students to follow the class (Richards & Rodgers, 2014). GTM demonstrated some strengths in Bangladeshi context as it has many practical advantages. For example, it enables the students to learn grammatical structures, provides opportunities to acquire vocabularies and sentence structure with the help of native language and students are allowed to communicate in their mother tongue in the classroom (Larsen-Freeman & Anderson, 2013; Richards & Rodgers, 2014).

Teaching English in Bangladesh is often criticized as it fails to develop learners' communicative competence (Ali & Walker, 2014; Hamid & Baldauf, 2008). Therefore, a communicative approach to language teaching was adopted for the secondary and higher secondary level since late 1990s (Chowdhury & Kabir 2014; Hasan, 2013). However, there is very little evidence that it has improved the situation and to some extent academics and existing research have criticized the implementation of CLT in Bangladesh (Alam, 2018; Al Amin & Greenwood 2018; Ali & Walker 2014; Hamid & Baldauf, 2008). Although CLT is a widely used language teaching method in different parts of the world, it is often considered as a suitable method only for the western context (Medgyes, 1986). Therefore, an eclectic approach to language teaching is getting popular where rather than focusing on any particular language teaching method exclusively, considering the context a teacher decides the best method or combine various activities that will facilitate learning (Kumaravadivelu, 2006). Although it is not recommended to teach grammar explicitly in CLT, in Bangladeshi context there is an urgent need to find ways to incorporate grammar in teaching in a communicative way.

Moreover, in GTM teaching happens without considering the context. Therefore, the students learn only sentence structures without any ability to connect their knowledge with their context (Ahmed, 2013). The result is, of course, disastrous. Indeed, because of being failed to connect their grammatical knowledge with practical purpose, many students face much difficulty in their higher studies (Ahmed, 2013). Oral expressive ability is seriously disrupted and often students do not learn oral communication at all. In fact, the shortcomings and the boredom created from this method often results in hatred to translation among students (Eisa, 2020). As an explicit method, GTM is very much teacher-centered. The teacher himself controls the teaching activities and he dictates the class (Larsen-Freeman & Anderson, 2013).

Therefore, there is little opportunity for students to participate freely in classroom activities. Thus, it is evident that many advocates of GTM also accept the fact that some communicative tasks must be included along with the traditional GTM exercises.

Grammar, nowadays, is considered as an important language skill (Larsen-Freeman, 2003). Hence, the phrase "grammaring" is evolved which is considered as the fifth skill, along with reading, writing, listening and speaking (Levine, 2014). Teaching grammar has three aspects; form or structure, meaning and use. However, GTM only focuses on meaning and form (Larsen-Freeman & Anderson, 2013).

Thus, students totally miss another aspect of learning grammar that is using it in appropriate context. In fact, this makes them unable to apply their knowledge of grammar for practical purposes (Larsen-Freeman & Anderson, 2013).

This literature review suggests that there is a consensus among the experts that students must build up communicative competence to be able to use language appropriately and to do that, they must be taught both the form and the use of grammar. Thus, a communicative approach in grammar teaching that focuses not just only the form rather the actual use in the real life situation is essential. Therefore, this research explores the barriers that prevent teachers teaching grammar communicatively and how teachers can use a communicative approach in case of teaching grammar.

Methodology

The study was carried out using a mixed-methods approach (Creswell & Guetterman, 2019) including surveys and interviews with English language teachers, class observation and analyzing artifacts. The survey is used to collect data on teachers' perceptions of the barriers to teaching grammar communicatively and their teaching practices. The interviews and artifact analysis help us developing an in-depth understanding of participating teachers' approaches to teaching grammar, teachers' perspectives on barriers of teaching grammar communicatively and offering an effective way of teaching grammar communicatively.

The study was carried out in two stages. The quantitative phase consists of a questionnaire based survey carried out among teachers (n-320) who are teaching English at the higher secondary level. However, after the data cleaning 306 responses were finally kept for analysis. The second phase was qualitative which involved interviewing selected teachers from the survey participants, observing their classes, artefacts and documents analysis. A simple random sampling technique was used to select participants for the survey.

The tools of data collection include a structured questionnaire and a semi-structured interview guideline. For the questionnaire development we reviewed literature thoroughly and after the development of the questionnaire, and a small number survey items were adopted from Al Amin (2017). We sought feedback from the expert and then the questionnaire was piloted with college teachers. Based on the feedback we revised the questionnaire further before collecting data. The semi-structured interview guide was used to elicit information about the barriers to implementing CLT and potential solutions to overcome these barriers. The data were then triangulated to answer the research questions.

The quantitative data were analyzed with SPSS, where descriptive and interpretive statistics (De Vaus, 2016) were generated. The open-ended comments from the questionnaire

were analyzed qualitatively to generate key themes. The qualitative interviews, on the other hand, were analyzed thematically using Braun and Clarke's (2006) thematic analysis guidelines.

Both qualitative and quantitative data were triangulated to find out convergence and divergence and to develop a robust and holistic understanding of the research problem. Before recording any interview or carrying out observation participants' written consent was taken.

Results and Discussion

In this section we are going to present the results and discussion of this study. After the data cleaning we have 306 responses in total. The demographic information is provided in the following table.

Demographic information of the participants

		Count
Gender	Female	141
	Male	165
Age		
	21-30	26
	31-40	167
	41-50	94
	51-60	19
Teaching Experience		
	0-5 years	54
	11-15 years	70
	16-20 years	21
	21+ years	24
	6-10 years	137
Highest Qualification		
	Bachelor	1
	Doctorate	3
	Masters	293
	MPhil	9
College Type		
	Government College	125
	MPO listed college	133
	Others	5
	Private owned college	43
Training	No	54
	Yes	252

The above table provides the demographic information of the participants. The majority of the respondents are between 31-40 years of age range. We covered govt., MPO listed and private owned colleges to contain the diversity and holistic representation of opinions. Most of the teachers had their Master's degree, but only a few had M.Phil or Doctoral degrees. In terms of experience, we can see that majority (41%) of the participating teachers have got 11-15 years of teaching experiences. However, we have received responses from a large number of teachers (32%) who have got only 1 to 5 years of teaching experiences.

Among the participants 125 are from government colleges and 180 teachers are from non-govt. and MPO listed colleges.

However, a majority of the teacher 82% stated that they attended some kind of teacher training. In the next section we are going to present the results from the questionnaire analysis.

Results from survey findings

In this section we are going to present the results from the quantitative data analysis.

Teachers' reported beliefs and teaching practices

TEACHERS' BELIEFS AND PRACTICES

■ STRONGLY DISAGREE ■ DISAGREE ■ NO OPINION ■ AGREE ■ STRONGLY AGREE
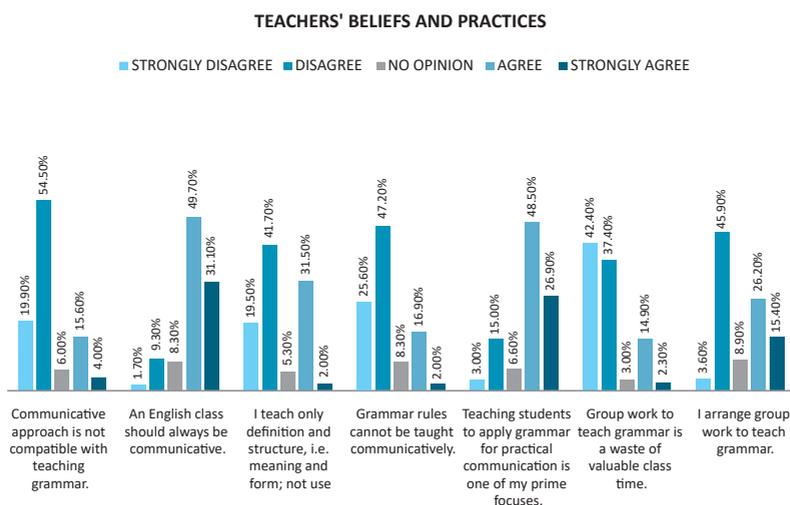
In this section we reported a number of survey items that were specifically asked to find out teachers' beliefs and teaching practices regarding communicative teaching. A significant majority (70%) of the participants expressed skepticism about the compatibility of the communicative approach to grammar teaching. Moreover, a notable divergence from traditional pedagogical norms was evident, with 70% of teachers disagreeing with the notion that grammar rules cannot be effectively taught through communicative methods. However, a larger proportion (80%) endorsed the idea that an English class should be communicative.

Interestingly, despite the overarching emphasis on practical communication skills, highlighted by nearly 80% agreement, a substantial portion of teachers (70%) perceived group work as inefficient for teaching grammar. This sentiment contrasts with the moderate uptake of group work practices, as only half of the surveyed teachers reported arranging group activities for grammar instruction.

Exam and its influence on teaching

EXAM AND ITS INFLUENCE

STRONGLY DISAGREE ■ DISAGREE ■ NO OPINION ■ AGREE ■ STRONGLY AGREE

When I prepare materials for teaching, I always consider what is important for the Examination.
6.60% 12.80% 2.60% 49% 28.90%

I teach grammar only because it is very important for the higher secondary examination.
8.60% 33.60% 5.90% 23.40% 28.60%

The exam pattern of the HSC level requires students to learn only form and meaning, not use
11.50% 19.30% 7.20% 21.60% 40.30%

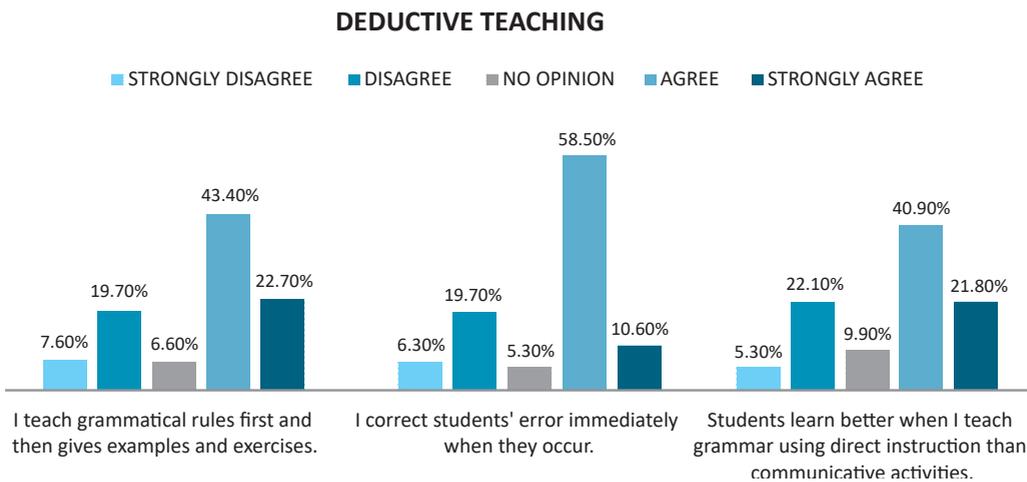In case of teaching, exam plays a big role. Teachers teach according to the exam format. In the survey of teaching perspectives, 80% of teachers acknowledged considering examination content when preparing teaching materials. However, opinions varied on the sole emphasis on grammar for higher secondary exams, with around 40% disagreeing and nearly 50% agreeing. Additionally, perceptions of the Higher Secondary Certificate (HSC) exam pattern differed, with 60% agreeing that it focuses solely on form and meaning, while 30% disagreed. In the higher secondary level high stake test as well as other high stake tests discreet grammar testing is a common phenomenon (Al Amin & Janinka, 2018, Ali, Hamid & Hardy, 2020). Therefore, it is evident that teachers teach contents to match the exam.

Deductive teaching

DEDUCTIVE TEACHING

STRONGLY DISAGREE ■ DISAGREE ■ NO OPINION ■ AGREE ■ STRONGLY AGREE

I teach grammatical rules first and then gives examples and exercises.
7.60% 19.70% 6.60% 43.40% 22.70%

I correct students' error immediately when they occur.
6.30% 19.70% 5.30% 58.50% 10.60%

Students learn better when I teach grammar using direct instruction than communicative activities.
5.30% 22.10% 9.90% 40.90% 21.80%

The survey results indicate a predominant agreement, with 70% of the participants favoring traditional grammar instruction methods. Specifically, a majority endorsed teaching

grammatical rules before providing examples and exercises, immediate error correction during instruction, and the efficacy of direct instruction over communicative activities. These findings underscore a prevalent preference for structured and rule-based approaches in language education, prompting further inquiry into the balance between traditional and communicative teaching methods.

Lack of resources

LACK OF RESOURCES

■ STRONGLY DISAGREE ■ DISAGREE ■ NO OPINION ■ AGREE ■ STRONGLY AGREE
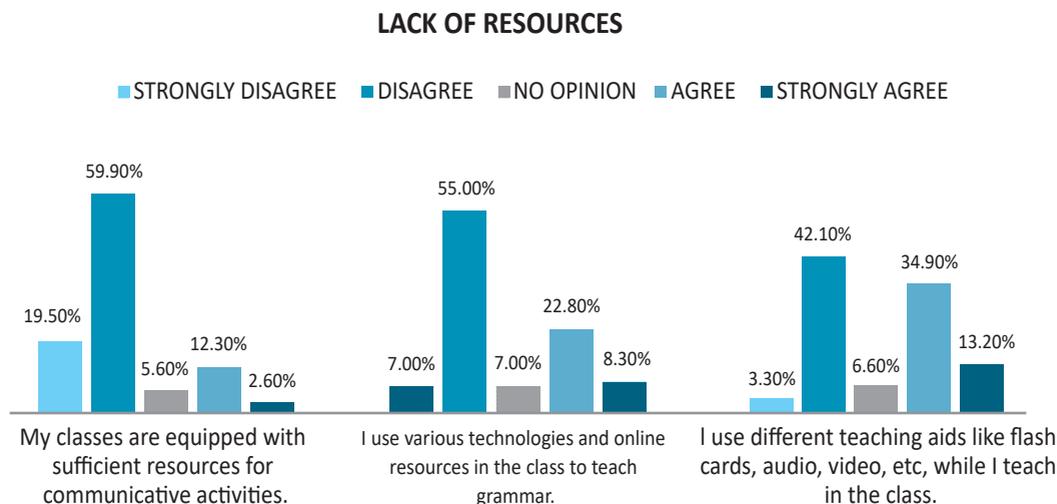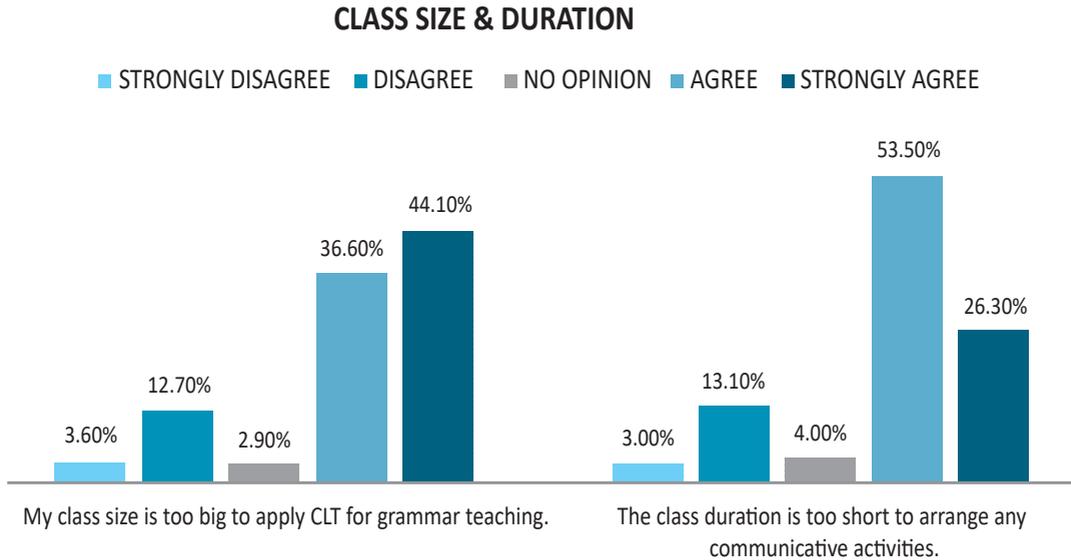

Investigating resource utilization in grammar instruction revealed significant trends among participating teachers. Surprisingly, a vast majority (80%) expressed disagreement regarding the adequacy of resources in their classrooms for facilitating communicative activities, indicating a potential gap in instructional materials or infrastructure. Similarly, nearly 60% of respondents indicated reluctance to incorporate various technologies and online resources into their grammar lessons, suggesting a possible hesitant towards digital integration in language education.

Interestingly, opinions were more evenly split when it came to the use of traditional teaching aids such as flashcards, audio, and video materials, with a balanced 50/50 ratio among those who utilize these resources in their teaching practices. This suggests a nuanced approach among teachers, with some embracing traditional methods while others may be more inclined towards innovative approaches.
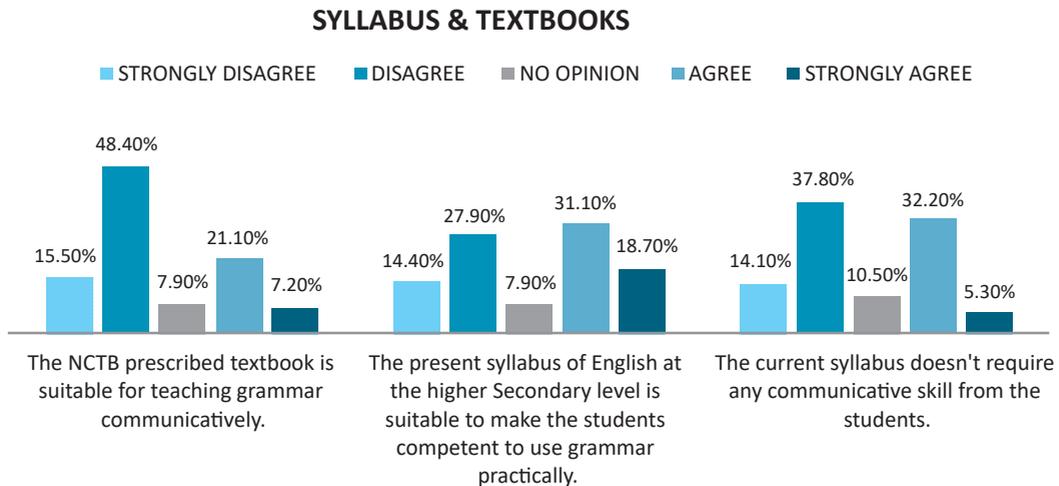
These findings shed light on the diverse landscape of resource utilization in grammar instruction and highlight potential areas for improvement in providing adequate support for teachers to enhance their instructional practices.

Impact of class size and class duration on teaching

CLASS SIZE & DURATION

■ STRONGLY DISAGREE ■ DISAGREE ■ NO OPINION ■ AGREE ■ STRONGLY AGREE

53.50%

44.10%

36.60%

26.30%

13.10%

12.70%

3.60%   2.90%   3.00%   4.00%

My class size is too big to apply CLT for grammar teaching.

The class duration is too short to arrange any communicative activities.

80% of our survey respondents marked that class size plays the most important role when it comes to the implementation of CLT. Adding to it, class duration was one of the major facts that hinders the endeavors to conduct language classes in CLT approach.

Syllabus and textbooks

SYLLABUS & TEXTBOOKS

■ STRONGLY DISAGREE ■ DISAGREE ■ NO OPINION ■ AGREE ■ STRONGLY AGREE

48.40%

37.80%

32.20%

31.10%

27.90%

21.10%

18.70%

15.50%   14.40%   14.10%

10.50%

7.90%   7.90%   7.20%   5.30%

The NCTB prescribed textbook is suitable for teaching grammar communicatively.

The present syllabus of English at the higher Secondary level is suitable to make the students competent to use grammar practically.

The current syllabus doesn't require any communicative skill from the students.

More than 60% of the respondents disputed on the effectiveness of NCTB's textbook for communicative English language teaching. They believe that the contents and evaluation design

is not suitable for CLT approach. Although, almost half of the respondents contradictorily believe that the current syllabus may also be helpful for the students to use grammar practically.

Survey responses are not always providing us the true picture of what happenings inside the class. Therefore, we look for further evidence from the qualitative data to see what we have found in the survey to what extent these are happening in the class.

Results from the qualitative data analysis

In this part we presented the results from the qualitative data analysis. The following themes emerged from the analysis.

Reasons behind using or not using CLT in teaching

Effective teaching method:

From the open-ended responses, it appears that most English teachers find CLT very effective and productive. Some teachers are comfortable to implement it in the classroom as the students love to communicate and it makes their understanding better. It is also considered easier to make them understand in a communicative way rather than keep them forcing into memorization. It makes the class participatory too. Some believe that, CLT makes learners efficient and capable to cope with the competitive world. Most of the teachers like to use CLT for teaching grammar because it is a student-oriented approach, and students can learn easily. Some of the participants' comments in this regard are provided below:

> ..I feel it is more comfortable to implement in the class as students love to communicate as it makes their understanding better.

> ..It is easier to make them understand in CLT way rather than keep them forcing into memorization.

> ..I would like to use CLT for teaching grammar because it is a student oriented process, students can learn easily.

Meaningful communication

Teachers often use CLT for teaching grammar as it is the way through which learners can interact with themselves as well as with teachers. Through CLT, learners can learn the real-life situation. Respondents also stated that students learn the best when they communicate in the target language and CLT focuses on communication. CLT is a way of teaching where the students enjoy learning because they can communicate and relate learning with the real world. The followings are some of the comments from participants:

> ...I use CLT method for teaching grammar because it helps students to know how to use grammar in real life situation rather than sticking only the grammar rules.

> ...I use this particular method because it helps students to communicate with their

teacher in a large classroom to learn foreign language and its grammar.

.... Actually I prefer to use CLT method as it focuses on meaningful communication rather than memorization of grammar.... structures...

Less comfortable for students with current culture

Some teachers tried to teach grammar using CLT. However, the students do not feel comfortable to communicate. They remain quiet. Some think that students are unable to catch grammatical things when they freely communicate. Some respondents experienced that the students lack in interest. They do not find CLT much appealing. Moreover, they have found students who make mistakes in writing correct sentences, although they are well-versed in spoken English. Therefore, some teachers give more focus on GTM method rather than CLT method in case of teaching grammar. Some of the comments from the participating teachers highlighting this issue are provided below:

....I tried to teach grammar by using CLT. However, the students do not feel comfortable to communicate. They remain quiet.

....I did not try CLT for teaching grammar because I think students are not able to catch grammatical things when they freely communicate.

...They will not be able to understand the critical things which are used in grammar.

Therefore, making a holistic change in teachers' and students' mindsets regarding teaching and learning is important. For a long time, we are used to traditional teaching, memorizing and appearing in exams. We need to think how the awareness regarding communicative teaching can be created among various stakeholders.

Lack of knowledge about CLT/ Challenging method

While some of the participating teachers have necessary backgrounds, and possess a good knowledge about teaching English using communicative approach, a good number of teachers find it difficult to understand the principles of CLT. They admitted that they have got very little opportunities to attend CLT related professional development courses or training. Moreover, they also studied in a system when their teachers did not use any kind of communicative activities, rather lecture was the common method of teaching in the class. Therefore, it has an impact on those who are teaching now and as a result teachers are more comfortable with GTM approach. Therefore, for them teaching using the CLT method is a big challenge. Moreover, there is lack of ongoing support for teachers to uplift their teaching skills. Some of the comments from the participants highlighting this issue are provided below:

……. because I do not have any training on that particular method.

...I sometimes use CLT for teaching English speaking. However, teaching grammar ... teaching through CLT seems complicated and challenging to me.

..I did not try CLT because the syllabus was designed and grammar skill practice were designed in a way which does not have scope for teaching communicatively. The medium is also Bangla.

Challenges of teaching grammar communicatively

Large class size

Large classroom size is identified as one of the main barriers in teaching grammar communicatively. This issue is articulated in interviews with almost all the teachers as well as data from the open-ended parts of the questionnaire also support this issue. The problem is prevalent in both urban and rural areas and the issue is crucial especially in case of English. One of the reasons is that for English students from science, arts and commerce are combined in the same class. Classroom size has always been in the discussion while implementing CLT. Teachers state that the excessive number of students in one class creates not only accommodation crisis, but also creates noises. And the excessive number of students makes it impossible for the teachers who want to communicate with all the students, but the reality hinders with a very little scope to that. Some of the comments are provided below:

..... It is a very big problem in our country. ……… But when a classroom is full with 100 students, is it a classroom? How can you produce them any sort of method? They will not pay you.

....Yes, unusually large, not only but unusually large. There are 50, 60, 60, but in our college it ranges from 50 to 60

..For large classroom, more than 300+ students, authority discourages, current syllabus.

Short Class time

Sometimes the class time is short too. Public exams and other activities cut the course run time too. Therefore, it becomes difficult to clear the whole syllabus within the shorter period. Some of the comments are provided below:

……..Firstly, number of students. Secondly, time constraint. We don't get much time in a ....class to practise communicative tasks.

...In a big size classroom, it seems difficult to teach and correct all the error of the students ...in a short period of time.

....The class time is short too.

Communicative activities require some time to organize in the class-at least an hour class time would give students and teachers to engage in some communicative activities. However, when the class time is too short it is practically impossible to arrange communicative activities for a large number of students in a class. As a result, it appears that most teachers take the

possible option that is lecturing, and students most of the cases remain silent. Therefore, it is important to think how class time can be increased and at the same time student number can be kept at an acceptable level so that teachers can arrange communicative activities for students.

Lack of students' motivation

Most students want to get A+ but they are not ready to learn diligently. Students avoid reading English novel, newspaper articles and other fiction or non-fiction books and that's why story seems to be a boring one in English to them. They prefer the traditional way and many of them are not willing to interact in English. Some of the comments provided below highlighted this issue.

> *...The students are not interested mostly. When they were given CLT classes, they end up gossiping among themselves. Moreover, there is no enough space, time and resource to conduct classes following CLT method.*

> *...The students are sometimes not interested enough in participating in the group tasks and many prefer instant feedback*

> *..Not all of the students might feel encouraged because they have been into the traditional way for so long.*

It is important to encourage students to take part in various activities in and outside the class. Teachers, principal and other stakeholders need to play an important role here to encourage students. More importantly, encouragement should also come from the parents. Most of the parents are obsessed with marks and grades rather than learning. At the same students also need to realize the importance of studying, acquiring knowledge and work as a group with other students.

Lack of relevant training opportunities

Another important barrier identified from the qualitative data is the lack of relevant and adequate training opportunities for teachers. Although in the survey teachers indicated that a majority of them attended training, but they are not particularly related to CLT. Therefore, although numerous benefits of using CLT approach in the classroom are reported in the literature, particularly developing students' communicative competence, in the qualitative data it is apparent that teachers feel ill-prepared and they lack necessary skills to implement CLT in their classrooms.

Some of the comments highlighting this issue are presented below:

> *...How can you run the method if there is no resource person?*

> *..... If you have no resource person, you can understand that resource person is very important.....If I know CLT, then I can communicate with my students. If you do not know, how can you?*

Training such a large number of teachers requires a long term and well-planned efforts from various stakeholders including policymakers, teachers' training institutions, college principals, and more importantly enthusiasm from the participating teachers. More importantly, it is also important to ensure that the required financial supports from the authority are provided to train teachers.

Lack of resources

Communicative teaching often demands various resources in the class. It includes authentic teaching materials, realia, digital materials, and audio-video materials. Our classes, unfortunately, are not equipped with sufficient teaching and learning materials. In fact, there is hardly any spaces to store necessary materials in the class. The infrastructure is not supportive most of the time. Participating teachers highlighted a number of issues regarding this:

>   *-insufficient resources.*
>
>   *-not enough authentic materials (Mostly self made)*
>
>   *-lack of materials*
>
>   *-lack of materials which is not related to our culture.*
>
>   *-lack logistics support*

Lack of support from authority

Teachers' works are often directed by the college authority. In some cases, teachers are bound to follow rules set up by the authority. In such scenario rather than innovative teaching mechanical and teaching to the test, drilling, ensuring teaching that will bring good marks in the examinations become the prime objectives of teachers. Sometimes the authority does not give permission or encourage to use communicative activities. Discouragement from the institution is another important factor that stands against implementing CLT in case teaching grammar. Some comments from the qualitative data are presented below:

…..when authority does not support the way of CLT it is difficult to implement.

….. managing the authority is a big issue.

…authority as well sometimes do not give permission to do so.

Therefore, ensuring institutional support and encouraging innovative and communicative teaching is very important to make qualitative changes in teaching at the higher secondary level in Bangladesh.

Exam-oriented teaching

The disconnection between the current exam system at the higher secondary level and the principles of CLT is another impediment in case of implementing CLT. The analysis of the past exam papers revealed that in the high-stakes examination students are required to answer discreet grammatical questions not whether students are able to use grammar in communication. Therefore, it appears that teaching/ learning isolated grammar items are more beneficial for high-stake tests than communicative activities to teach grammar. The following comments highlighted the issue:

> ....Yes, this is the normal practice. And students like to receive. The main focus is the exam result.
>
> ... Actually the main aim is to prepare the students for the exam in Bangladesh.
>
> ....What I am honestly telling about the situation of the students and of the teaching in Bangladesh. The students, most of the students do not want to learn, they want to pass the exam. This is their only aim.

The current exam pattern is one of the big barriers in implementing communicative teaching particularly in case of grammar teaching. In various exams including high-stake tests, grammar is assessed discreetly which demands rote learning and teaching. Therefore, a change in the exam pattern is utmost importance if we would like to see any qualitative changes in teaching and learning.

Conclusion & Recommendation

Based on our study we would like to make the following recommendations:

- Create and execute comprehensive teacher education programs with an aim to recruit, train and empower competent teachers.

- To conduct interactive teaching in which teachers may interact and pay attention to all students, class size must be kept to an appropriate level.

- Ensure that educators have access to a varied set of teaching resources, materials, and technology to make teaching interactive and communicative.

- Encourage collaborative learning environments in which students actively participate in communicative activities that require them to utilize English for real conversation.

- Provide continuing assistance and coaching to instructors as they move to a communicative approach to grammar instruction.

- Advocate for reforms in institutions and policy changes to remove structural impediments to communicative language instruction in English language education.

- Encourage collaboration and partnerships among various stakeholders including teachers' training institutions, curriculum developers, principals, educational

administrators and other stakeholders to create and advocate for a supportive environment for teachers where they can freely practice communicative activities in the class.

- Finally, we strongly recommend to revise the current assessment practices at the higher secondary level. The current high-stakes test at the higher secondary level is not compatible with the principles of CLT as only two skills are assessed in the exam and grammar are assessed in isolation.

Conclusion

The quantitative and qualitative analysis of survey data and interviews with English teachers from higher secondary levels shed light on their current teaching practices and beliefs, and several critical barriers to effective communicative language teaching (CLT) implementation were identified. The findings highlight the critical need for targeted interventions and structural improvements to language education policy and practice in Bangladesh. Addressing these impediments necessitates a multidimensional strategy that includes curriculum revision, investment in teacher training and professional development, increased institutional support and resources, and alignment of assessment techniques with communicative language teaching goals.

By recognizing and addressing these hurdles, policymakers and educators may foster an environment conducive to the development of communicative competence among children in the upper secondary level. Embracing communicative language teaching principles not only improves language proficiency, but also provides students with the necessary skills for effective communication in real-world contexts, enhancing their overall language learning experience and preparing them for success in an increasingly interconnected world.

Acknowledgement

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Impact of Reading Comprehension on Mathematics and Science Performance at Secondary Level in Bangladesh

Monjurul Islam[1]
Happy Kumar Das[2]
G M Rakibul Islam[3]
Md. Shahriar Shafiq[4]

Abstract

This study analyzed the correlation between reading comprehension and academic performance in science and mathematics among secondary school students in Bangladesh. Besides correlation analysis, the study aimed to explore students' reading habit, examine reading skills and reading comprehension. In doing so, the research employed a quantitative approach, utilizing a correlation design and regression analysis to examine the causative relationship between reading comprehension and performance in science and mathematics. Data were collected from seventh-grade students across three divisions: Rajshahi, Rangpur, and Chattogram. The study involved visual representations of the associated scores in reading comprehension, mathematics, and science subjects to facilitate analysis. Findings revealed that a high prevalence of academic reading habits among students, with a marked preference for academic over non-academic reading. A very high correlation between reading comprehension and mathematical competence, as well as between reading comprehension and science performance were identified. Regression analysis further demonstrated a significant impact of reading comprehension on both science and mathematical performance. The strong correlation and significant influence of reading comprehension on performance in these subjects highlight the need for educational interventions focused on improving reading skills. This study recommended some valuable insights for educators and policymakers, emphasizing the need to prioritize reading comprehension in the educational curriculum to maximize student performance in key academic areas.

Key Words: Reading Comprehension, Mathematics, Science, Secondary Education, Bangladesh

1. Introduction

1.1 Background

In the past two decades, Bangladesh has performed exemplary in ensuring education for all, particularly at the elementary school level (Ahmed, 2006). However, students lack

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[1] Education Officer, ASA Bangladesh, Dhaka; monjurul.edu@asabd.org
[2] Associate Professor, Institute of Education and Research, University of Rajshahi; hkdasdu@ru.ac.bd
[3] Assistant Professor, Department of Educational Administration, Noakhali Science and Technology University; gmrakibulislam@nstu.edu.bd. & Corresponding Author
[4] Lecturer, Department of Education, Noakhali Science and Technology University, mshafiq@nstu.edu.bd

grade-level competencies in Bengali, Mathematics and Science at primary (DPE, 2018) and secondary level (LASI, 2015). Evidence established that reading comprehension mostly influences science and mathematics achievement at the secondary level (Imam *et al.*, 2013; Akbaşl *et al.*, 2016).

Reading comprehension involves the ability to understand written language, interpret meaning, and make inferences (Cox & Wiebe, 1984). These skills are not only important for language related subjects, but also subjects like Mathematics and Science require students' reading comprehension skills to understand the meaning of word problems to solve and subject matter (Kurshumlia & Vula, 2019). Word problems in mathematics require students to understand mathematical concepts, identify relevant information, and apply appropriate strategies to solve the problem (LLinares & Roig, 2006), which is similarly true for science. Evidence shows that students with better reading skills can solve mathematical problems better (Kendeou, 2009).

Multiple studies (e.g., Obaydullah, 2019; Habib & Mawa, 2022; Grimm, 2008; Imam, 2016; Rahman, M. M., & Sultana, P., 2018) have pointed out that Bangladesh has been experiencing low performance of its secondary level students in science and mathematics continuously in public examinations (Secondary School Certificate-SSC) as well as in standardized tests (Learning Assessment of Secondary Institutions- LASI). For instance, Bin (2017) shows that the average pass rate of students in SSC in 2017 decreased by 3.84 percent from the previous year of 2016. Similarly, students' pass rate decreased in 2018 due to their poor performance in mathematics and in science (GPE, 2020).

Walker and his colleagues (2008) argued that arithmetic questions that are meant to assess higher-level cognitive abilities like problem-solving and mathematical reasoning are two-dimensional since they assess both reading and math abilities. According to their research (Walker *et al.*, 2008), students' performance on these contextualized items was really impacted by their reading proficiency. In addition, conceptual grasp of mathematics and the application of that knowledge are related to early reading comprehension (Grimm, 2008). Borasi and colleagues (1998) argue that students' mathematics performance may suffer if they don't have the vocabulary needed to comprehend word problems. Mathematical instructors assist their students in improving their reading comprehension of mathematical materials (Carter & Dean, 2006). Numerous research on this subject provided instructions for improving pupils' comprehension of word problems (Borasi *et al.*, 1998; Helwig *et al.*, 1999; Nathan *et al.*, 1992). Thus, it is evident that reading proficiency and students' reading comprehension are related with mathematics and science performance.

Moreover, several research has indicated a reciprocal link of reading comprehension, with mathematics and science, indicating that proficiency in one subject might enhance proficiency in the other (Jordan *et al.*, 2009). Despite data supporting the association of reading comprehension with science and mathematical proficiency, there has been little investigation into this relationship in Bangladesh. Therefore, this study aims to fill the gap in research by looking at the link between reading comprehension and mathematical along with students' science performance.

1.2 Rational of the study

The general education system of Bangladesh at the secondary level, the subjects are taught in Bangla language except for English subjects. Thus, it is necessary to get acquainted with instructional language, which here is Bangla, to understand the lesson of other subjects. In the public examination of Bangladesh, which are paper-pencil test, comprehending the questions students write their answers. Therefore, it appears that students depend on reading comprehension to do well in all subjects (Talukder, 2011).

Along with the public examinations, several reports of LASI and other studies showed that secondary students lack grade-level competency in science and mathematics. In 2012 and 2013, LASI was conducted in SEQAEP (a project to support the low performing secondary schools) institutions showed that two-third students of these institutions demonstrated low competency in mathematics (SEQAEP, 2012; 2013). Later in 2015, when LASI was employed nationwide and included all the schools, it was found that 20 and 22 percent of the students achieve mathematical competencies in higher band (5,6) for class 6 and class 8. 20% of Grade 6 students and 22% of Grade 8 students performed at or above band 5, which was above the national average for both grades. Students at this level are capable of doing a sequence of computations, making connections between geometrical characteristics, and solving issues with unfamiliar circumstances (DSHE, 2015). At the same time, showed lower performance of students in science also.

Research by the Global Partnership for Education (GPE), Education Sector Analysis (ESA) for Bangladesh, found that students who get excellent reading comprehension scores in Bangla, also performing well in mathematics (GPE, 2020). Results from several studies in major international assessments and data banks (PIRL, PISA) show that students with high reading comprehension proficiency do well in science and mathematics, while students with low reading comprehension proficiency perform poorly in science and mathematics (Nicolas & Emata, 2018; Mullis *et al.*, 2011; Sait Akbaşlı *et al.*, 2016; Wu & Lin, 2014).

Considering the relationship among reading comprehension, science and mathematics performance, this study will investigate the correlation and cause of reading comprehension, science and mathematics performance in order to reveal a realistic scenario of student performance decline at the secondary level. The main purpose of this study is to determine the correlation among reading comprehension, science and math achievement in Bangladeshi secondary schools. When there is a relationship, the teacher will focus on improving the student's reading comprehension, and policymakers will be able to develop the proper guidelines to enhance reading comprehension in order to maximize achievement in science and mathematics and other subjects for students in Bangladesh secondary schools.

1.3 Objective of the Study and Research Questions (RQ)

The primary objective of this research is to examine the relationship and effect among reading comprehension, science, and mathematics performance at the secondary level in Bangladesh.

1.3.1 Research Questions and Hypothesis

RQ 1: What are the reading habits trends among students at secondary level?

RQ 2: What is the degree of correlation among reading comprehension, science, and mathematical performance of secondary level students?

RQ 3: How does reading comprehension impact the science and mathematical performance of grade 7 students?

RQ 4: What are the perceptions of language, science, and mathematics teachers regarding the influence of reading habits on the academic performance of students in science and mathematics?

1.3.2 Hypothesis

The following hypotheses were generated and tested to achieve the objectives of the study.

H1: There is no significant relationship between reading comprehension and mathematical performance.

H2: There is no significant relationship between reading comprehension and science performance.

H3: There is no significant impact of reading comprehension on science and mathematical performance.

If the proposed hypotheses are rejected, the positive findings will refer to as the inverse results.

1.4 Limitations of the study

While this study is based on simple random sampling method from particular region and schools, its findings may not be represented to the full population of secondary level students in Bangladesh. Secondary education in Bangladesh covers six to ten grades. In this study we collected data from grade 7th students only. Along with this, the reading performance assessment was administered to secondary school students, whereas the mathematics and science performance assessment utilized secondary data obtained from schools' terminal tests. It is recommended that mathematics and science performance data be collected from primary test for future research.

2. Literature Review

2.1 Reading Habits

There are several definitions of the word "reading habit" from various specialists. Readers' preferences for particular reading categories and book kinds are more likely to be reflected in their reading habits (Wesermael & Sangkaeo, 1999). Shen (2006) emphasizes that a reading habit includes reading materials in addition to other factors like reading frequency, book count,

and time dedicated to it (Shen, 2006). However, Zwiers provides another meaning of the term. He thinks that "reading habits while building meaning from language" refers to both automatic and unconscious procedures. As a result, the act of instantly understanding when readers read a sentence, paragraph, or text and then subconsciously ascertain its meaning or summarize the textual content is referred to as reading habit. Zwiers also includes that individuals use to establish a "beginning" point for their reading if they had to read a lot of books in order to advance socially or personally. After they were accustomed to reading, they started looking for different sources to read, and eventually reading became one of their routines (Zwiers, 2004).

The academic success of students is greatly influenced by their reading habits. Academic success and reading are linked to and rely upon one another. Students from various backgrounds and locations frequently have varying degrees of intellectual success. Their patterns of reading habits are different also. While some pupils read well, their academic success refers to how much information has been learned in school (Suhana *et al.*, 2017). According to researchers, reading fosters not just fundamental literacy abilities but also logical and analytical thought processes as well as critical attitudes, making it crucial for learning other subject areas (Cunningham, 2003; Stanovich *et al.*, 1998). Students' reading habits could have a big impact on how well they do in school (Leppänen *et al.*, 2005; Stanovich *et al.*, 1998).

2.2 Reading Comprehension

Reading comprehension involves constructing meaning from text (Kintsch, 1998; Kintsch, 1983). It is more important to grasp the entire text than to comprehend specific words or sentences. Incorporating past knowledge into a mental picture of a text's meaning is the result of reading comprehension. This is referred to as a conceptual illustration (Kintsch, 1998). This representation describes the acquired knowledge (Snow, 2002). Reading comprehension, according to Keenan, Betjemann, and Olson (2008), requires the development and integration of several lower and higher-level processes and abilities of understanding. Accordingly, there are several potential causes of comprehension breakdown, and these sources vary depending on the ability levels and ages of the readers (Keenan *et al.*, 2008).

Vocabulary knowledge is essential for reading comprehension; one cannot comprehend a document without understanding the majority of its terms. The number of difficult terms in a text is the most accurate predictor of text difficulty, whereas a reader's comprehensive vocabulary knowledge is the most accurate predictor of how well a reader can comprehend literature (Anderson *et al.*, 1981). The certainty of the requirement of learning vocabulary and the strong association between vocabulary and comprehension encourage an easy response: if we just teach pupils more words, they would have a greater understanding of text (Mezynski, 1983; Pearson & Gallagher, 1983; Stahl & Fairbanks, 1986).

Most instructors agree that teaching key concept understanding is essential in reading which is called the main idea. It is towards the top of their rankings of reading comprehension abilities (Disorders & Williams, 1988; Johnson & Practice, 1981). However, several educational experts have recently discovered the value of training in major concept understanding (Resnick, L. B., 1984). Identifying the main idea of a text has long been an important component of the early reading curriculum. Nevertheless, the ability to draw conclusions is a crucial skill for

good reading (Anderson & Pearson, 1988; Hansen & Pearson, 1983). Effective conclusion of narrative text requires linking events in a storyline and identifying the factors that motivate a character's actions and behaviour (Honig *et al.*, 2000).

2.3 Relation between Reading Comprehension and Mathematics

Understanding a mathematical text is a process that involves thinking and interacting with information in order to construct meaning from the text is called reading comprehension (Imam, 2016). Comprehension plays a vital role in developing students' problem-solving skills in mathematics. One cannot solve a particular problem if one does not fully grasp the concepts and understand the given situation in math. Thus, when a student tries to solve a particular problem, they are also training their reading comprehension at the same time (Nicolas & Emata, 2018). Language skills and mathematics skills seem to be related, so lower language skills tend to translate into poorer mathematics performance (Macgregor & Price, 1999). In other words, improving mathematics performance requires improving students' reading comprehension (Nicolas & Emata, 2018).

2.4 Impact of Reading Comprehension on Mathematical Performance

Specifically, the reading skills required to comprehend mathematics texts and word problems, and the listening skills required to comprehend and comprehend a teacher's presentation of a problem solution - are essential for mathematical achievement (Robertson & Summerlin, 2005). Reading comprehension like understanding paragraphs, predicting outcomes, noting down details and knowing vocabulary words, there are significant correlations between algebra scores and various problem-solving skills in mathematics (Zepp, 1981). Recent research indicates that reading comprehension improves students' mathematics performance. Although not all skills proved to be equally beneficial, most evaluation studies found that reading comprehension had a considerable positive effect on mathematics. Students who have a strong knowledge of what they read perform exceptionally well in mathematics. Reikeras found that low reading achievement marginally hampered students' development of math skills (Reikerås EKL, 2006)

2.5 Relation and effect of reading comprehension on students' performance in science

Reading comprehension has long been considered essential to academic achievement (Grabe & Stoller, 2002). Despite the fact that science texts are frequently more challenging for students than other text types, the majority of teachers agree that strong reading abilities are essential for acquiring science concepts (VanLehn, 1998). Although students might be able to read, recognize, and recall material, they might not be able to interpret, summarize, or evaluate the text when asked to do so. This affects scientific learning negatively and is present from elementary school through middle school (Carnine, L., & Carnine, D., 2004).

Students find it difficult to learn secondary science since they cannot understand what they are reading in science texts. Additionally, poor reading abilities can cause a range of issues that might make learning frustrating (Callahan & Clark, 1988; Bender *et al.*, 2008). Reading proficiency is crucial for both comprehension and academic success (Alcock *et al.*, 2000; Voss & Silfies, 1996)).

Relationships between reading comprehension and science success have been found in many research investigations (Cromley, 2009; O'Reilly & McNamara, 2009; Spencer & Guillaume, 2006). According to reading comprehension and academic achievement are associated. The abilities in both subject areas are connected, that are a suitable pair for integration. Even if that are described in different ways, reading abilities like categorizing and recognizing primary concepts and details are similarly utilized in science to express the same process. The language and procedures used in these subject areas are identical for other abilities, such as making conclusions.

2.6 Conceptual Framework

Reading comprehension is a fundamental skill that significantly influences academic success, particularly in mathematics and science. The framework utilizes pertinent literature and educational theories to demonstrate the interrelation of reading comprehension, mathematics abilities, and scientific knowledge among secondary-level pupils in Bangladesh.

Reading Habit
- Reading Newspaper
- Doing library works
- Reading Magazine
- Reading literature

Reading Skills
- Scanning
- Skimming
- Inference reading
- Gist reading

Reading Comprehension
- Understanding
- Vocabulary in context
- Fluency
- Identifying main ideas
- Noting detalis
- Making inferences,
- Predicting outcomes
- Drawing conclusion

Mathematics and Science Performance
- Numerical ability
- Mechanical reasniong
- Problem solving
- Verbal reasoning
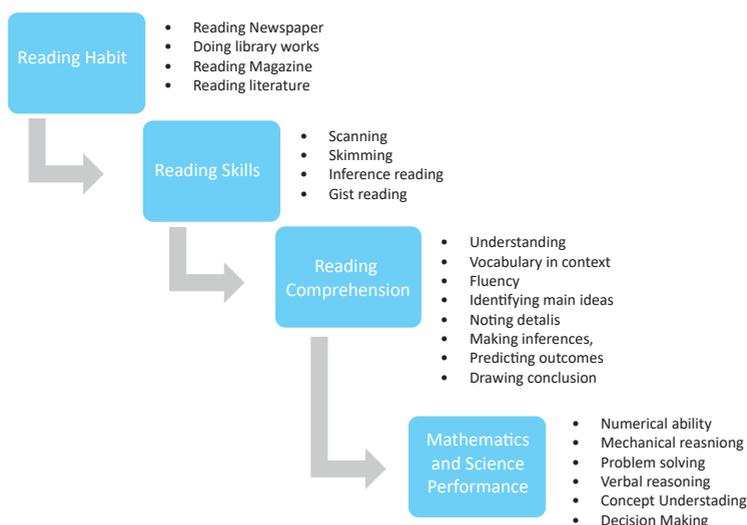- Concept Understading
- Decision Making

Figure 1: Conceptual Framework

Reading habit of the students leads them towards improved reading skills which in turn enhances their reading comprehension capability. All these three, consequently, impact students' performance in mathematics and science.

3. Methodology

The study followed a quanntitative method research strategy. Following a cluster sampling strategy tailored to capture a representative sample of Grade 7 students from three divisions: Rajshahi, Rangpur, and Chattogram, six secondary schools (3 from rural and 3 from urban area) were selected randomly. In total, 204 students of Grade 7 were selected using simple random sampling from 420 students with 95% confidence level and 5% margin of error. A reading habits survey checklist followed the five dimensions of reading habits, a mathematical questionnaire and a reading comprehension questionnaire for data collection tools were

used with 25 items representing five domains. The reading comprehension test covered the following areas: understanding vocabulary in context, making inferences, identifying main ideas, predicting outcomes, and drawing conclusions (Imam, 2016). Three questionnaires were used for data collection from students. The Cronbach's alpha test measures the questionnaire's validity, reliability, and internal consistency (Chan & Idris, 2017). The three instruments were piloted among 60 students from two secondary schools at two different times. Then, the students' scores correlated, showing a strong correlation that confirmed the questionnaires validity and reliability. Also, Cronbach Alphas of the reading comprehension questionnaire is .755. If the test Reliability Coefficients (Cronbach Alphas) for reading comprehension test questions are above 7.00, then it demonstrates acceptable and reliable consistency of internal items within the tools (Spiliotopoulou, 2009; Vaske *et al.*, 2017).

This study considered a correlation research design. First, the survey of reading habits data was analyzed with descriptive statistics to determine academic and non-academic reading habits among secondary students. To determine the predictor for dependent variables and effects of student performance in science and mathematics, Pearson's r-correlation coefficient was used to find correlations among variables and linear regression analysis was applied to determine the predictor and effects of student performance. The significance level for all tests was set at 0.05 intervals. Statistical Package for the Social Sciences (SPSS) version 25 used for data analysis. The researchers selected Pearson's correlation because researchers were wanted to test the hypothesis about the relationship among reading comprehension, science and mathematics performance. The correlation and regression analysis were done for every reading comprehension skill with science and mathematical performance. The researcher analyzed data for all students' overall reading comprehension correlation with science and mathematics performance. Afterwards, Students' science and mathematics scores were correlated with the five reading skills and four subdomains of the cognitive domain according to Bloom's taxonomy (Forehand, 2010). Finally, the correlation and regression analysis of reading comprehension with their science and mathematics performance was done according to the demographic and gender representation of the students.

4. Result and Discussion

4.1 Reading Habit Trends among Class Seven Students of Secondary Level

Table 1. Academic and Non-Academic Reading Habit among Grade 7th Students

	Never or hardly ever	Sometimes	About once a month	About once a week	Almost every day
Non-Academic	6.4	23	2.5	13.2	54.9
Academic	11.8	3.9	1.5	4.9	77.9
Overall	9.1	13.45	2	9	66.4

The data presented above (Table 1) illustrates the reading habits of seventh-grade secondary students. The results indicate that while 54.9% of students read non-academic materials daily, 6.4% of students read such materials very rarely. Regarding academic reading, 77.9% of students engage in daily reading, while 11.8% read such materials very

rarely. Academic reading habit trends among seventh-grade pupils are more prominent than non-academic trends. The overall reading habit among class 7 students was 9.1% rarely read whereas 66.4% students daily read for academic and non-academic functions.

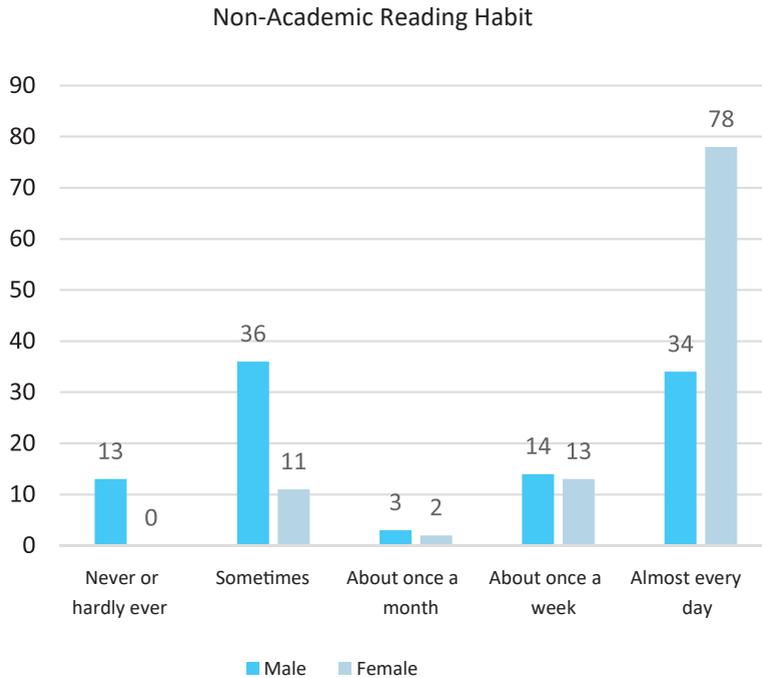**Non-Academic Reading Habit**

Figure 1: Non-Academic Reading Habit between Male and Female Students at Class Seven

Among the student population, it is observed that a significant proportion engage in reading non-academic books alongside their academic textbooks (see figure 1). Specifically, 78% of girls reported reading non-academic books almost every day, whereas only 34% of boys engage in similar reading habits. Additionally, 14% of boys and 13% of girls indulge in non-academic reading on a weekly basis, while 3% of boys and 2% of girls read such books monthly. Furthermore, 36% of boys and 11% of girls reported reading non-academic books occasionally, whereas 13% of boys admitted to never engaging in this type of reading.

There are notable gender differences in the frequency of reading non-academic books among students. The data indicates that a higher percentage of girls engage in this activity on a daily basis compared to boys (78% of girls vs. 34% of boys). Similarly, a larger proportion of boys reported never reading non-academic books compared to girls (13% of boys vs. 0% of girls). These differences suggest varying levels of interest or habituation towards non-academic reading across gender lines among students.

Table 2. Academic Reading Habit Between Male and Female Students of Class Seven

	Never or hardly ever	Sometimes	About once a month	About once a week	Almost every day	N
Male	19	7	2	4	68	100
Female	5	1	1	6	91	104
Total	24	8	3	10	159	204

According to the data presented in Table 2, it is evident that there are significant differences in academic reading habits between male and female students. Specifically, 19% of male students are categorized as infrequent academic readers, compared to only 4.8% of female students falling into this category. Conversely, a higher percentage of female students (87.5%) read academic materials almost daily compared to male students (68%). These findings are based on a total sample size of 204 students. Notably, among seventh-grade students, females demonstrate a notably stronger tendency towards regular academic reading compared to their male counterparts.

Table 3. Reading trends of Non-Academic Materials at Class Seven

	Never or hardly ever	Sometimes	About once a month	About once a week	Almost every day
Short stories	10.3	46.1	5.9	10.8	27.0
Poems	15.7	25	3.4	20.6	35.3
Novels	30.9	28.4	13.7	17.2	9.8
Fiction Books	19.6	27.5	11.8	16.7	24.5
Non-fiction books	37.3	32.8	9.3	10.8	9.8
Comics	34.8	28.9	6.4	14.7	15.2
Magazines	28.9	20.1	16.2	14.2	20.6
Newspapers	24	20.1	10.3	9.8	35.8
Websites	29.4	15.2	4.9	9.3	41.2
Video games	26.5	21.1	7.4	9.8	35.3
Social media (Facebook, Twitter, Intergametic.)	25.5	13.7	5.9	8.3	46.6
Text Messages	27	19.1	8.3	9.3	36.3
Apps	27	13.2	6.9	4.9	48

Table 3 illustrates a detailed analysis of non-academic reading patterns among students in the seventh grade of secondary school. Based on the information shown above, students in class seven often read a variety of texts, ranging from the least number of short stories (10.3%) to the largest amount of non-fiction books (37.3%) rarely. Additionally, they read the least number of novels and non-fiction books (9.8%) and various forms of text using mobile and computer apps (48%) almost every day.

4.2 Correlation among Reading Comprehension, Mathematics and Science Performance at Class Seven

Table 3. Overall Reading Comprehension Correlation at Class Seven

Variables		Mathematics	Science
Reading Comprehension	Pearson Correlation (r)	.802**	.836**
	Sig. (2-tailed)	0.000	0.000
	N	204	204

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

Table 3 displays the bivariate linear correlation between Bangla reading comprehension and mathematics, as well as Bangla reading comprehension and science scores among seventh-grade secondary-level students. There is a very strong correlation (degree of association) between the Pearson Product Correlation Coefficient of reading comprehension and mathematics as well as reading comprehension and science performance. The correlation is statistically significant for mathematics (r= .802, p< .05) and science (r= .836, p< .05). Before determining r, the assumptions of normality, linearity, and homoscedasticity were evaluated and confirmed. Therefore, the hypothesis H1 and H2 are rejected. As there is a substantial correlation between reading comprehension and mathematical competence, along with reading comprehension and science performance. This analysis shows that increased reading comprehension would improve mathematics and science achievement at the secondary-level.
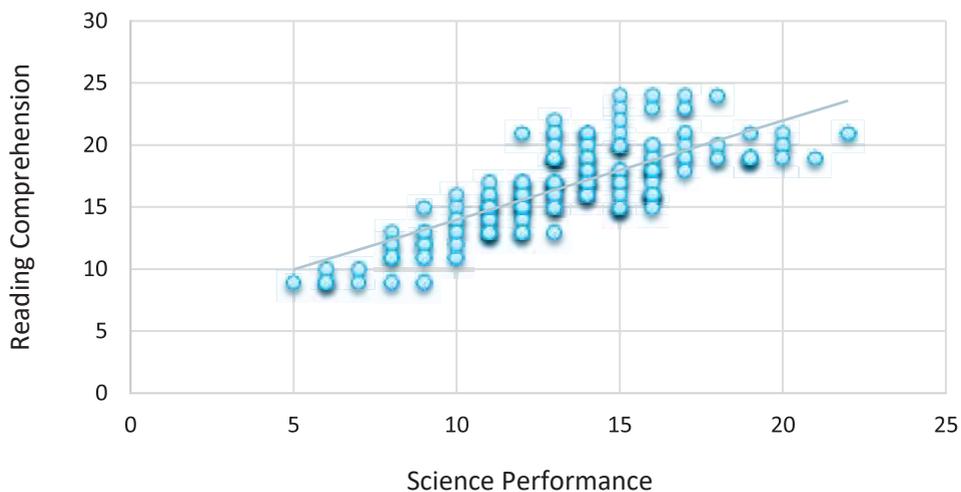

Figure 2: Scatter Plot of Correlation between Reading Comprehension and Science Performance
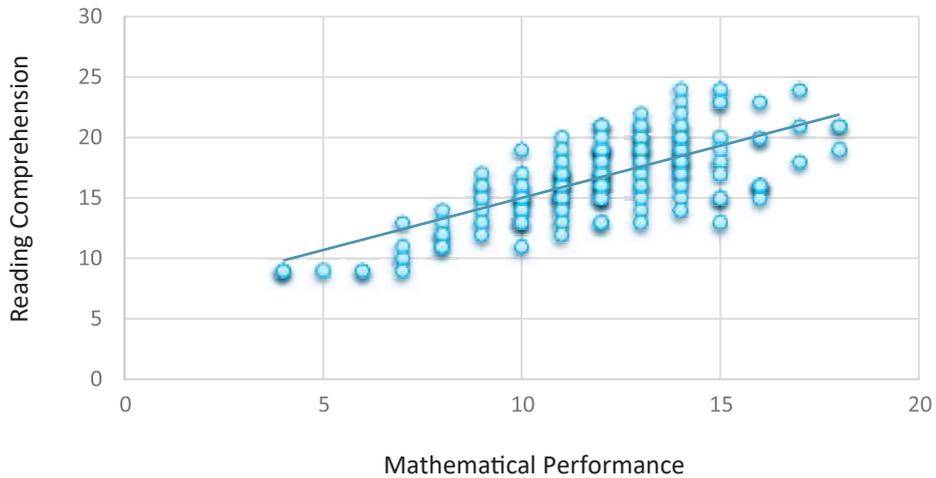
Scatter Plot

Figure 3: Scatter Plot of Correlation between Reading Comprehension and Mathematical Performance

Table 4. Correlation between of Reading Comprehension skills and Mathematics, and Science

Reading Skills		Mathematics	Science
Understanding Vocabulary in Context	Pearson Correlation (r)	.651**	.695**
	Sig. (2-tailed)	0.000	0.000
Identifying Main Ideas	Pearson Correlation (r)	.390**	.378**
	Sig. (2-tailed)	0.000	0.000
Making Inferences	Pearson Correlation (r)	.652**	.677**
	Sig. (2-tailed)	0.000	0.000
Predicting Outcomes	Pearson Correlation (r)	.542**	.553**
	Sig. (2-tailed)	0.000	0.000
Drawing Conclusion	Pearson Correlation (r)	.528**	.544**
	Sig. (2-tailed)	0.000	0.000
	N	204	204

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

Table 4 demonstrate the bivariate linear correlation between reading comprehension skills and mathematics, as well as reading comprehension skills and science scores among seventh-grade secondary-level students. There is moderate to very strong correlation (degree of association) between the Pearson Product Correlation Coefficient of reading comprehension skills and mathematics as well as reading comprehension skills and science performance.

The correlation is statistically significant between Understanding Vocabulary in Context and mathematics (r= .651, p< .05) and science (r= .695, p< .05); Identifying Main Ideas and mathematics (r= .390, p< .05) and science (r= .378, p< .05); Making Inferences and mathematics (r= .652, p< .05) and science (r= .677, p< .05); Predicting Outcomes and mathematics (r= .642, p< .05) and science (r= .553, p< .05); Drawing Conclusion and mathematics (r= .628, p< .05) and science (r= .544, p< .05). Before determining r, the assumptions of normality, linearity, and homoscedasticity were evaluated and confirmed. Therefore, there is a substantial correlation between reading comprehension skills and mathematical competence, along with reading comprehension skills and science performance. This analysis shows that increased reading comprehension would improve mathematics and science achievement at the secondary-level.

Table 5. Correlation between Reading Comprehension learning domain and Mathematics, and Science

Reading Domain		Mathematics	Science
Remember	Pearson Correlation (r)	.648**	.703**
	Sig. (2-tailed)	0.000	0.000
Understanding	Pearson Correlation (r)	.662**	.651**
	Sig. (2-tailed)	0.000	0.000
Application	Pearson Correlation (r)	.661**	.691**
	Sig. (2-tailed)	0.000	0.000
Analyze	Pearson Correlation (r)	.439**	.446**
	Sig. (2-tailed)	0.000	0.000
	N	204	204

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

Table 5 demonstrate the bivariate linear correlation between reading comprehension cognitive sub-domains and mathematics, as well as reading comprehension learning cognitive sub-domains and science scores among seventh-grade secondary-level students. There is moderate to strong correlation (degree of association) between the Pearson Product Correlation Coefficient of reading comprehension cognitive sub-domains and mathematics as well as reading comprehension cognitive sub-domains and science performance. The correlation is statistically significant between Remember and mathematics (r= .648, p< .05) and science (r= .703, p< .05); Understanding and mathematics (r= .662, p< .05) and science (r= .651, p< .05); Application and mathematics (r= .661, p< .05) and science (r= .691, p< .05); Analyze and mathematics (r= .639, p< .05) and science (r= .646, p< .05). Before determining r, the assumptions of normality, linearity, and homoscedasticity were evaluated and confirmed. Therefore, there is a substantial correlation between reading comprehension domains and mathematical competence, along with reading comprehension domains and science performance.

Table 6. Relationship between of Reading Comprehension and Mathematics, and Science Regarding Geographical locations

			Mathematics	Science
Urban	Reading Comprehension	Pearson Correlation (r)	.808**	.818**
		Sig. (2-tailed)	.000	.000
		N	148	148
Rural	Reading Comprehension	Pearson Correlation (r)	.795**	.876**
		Sig. (2-tailed)	.000	.000
		N	56	56

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

Table 6 demonstrate the bivariate linear correlation between reading comprehension and mathematics, as well as reading comprehension and science scores among seventh-grade secondary-level students regarding their geographical locations. There is very strong correlation (degree of association) between the Pearson Product Correlation Coefficient of reading comprehension and mathematics as well as reading comprehension and science performance. The correlation is statistically significant between reading comprehension and mathematics (r= .808, p< .05) and science (r= .818, p< .05) for urban context; reading comprehension and mathematics (r= .795, p< .05) and science (r= .876, p< .05) for rural context. Before determining r, the assumptions of normality, linearity, and homoscedasticity were evaluated and confirmed. Therefore, there is a significant correlation between reading comprehension and mathematical competence, along with reading comprehension and science performance at the urban and rural context.

Table 7. Relationship between of Reading Comprehension and Mathematics, and Science Regarding Sex

			Mathematics	Science
Male	Reading Comprehension	Pearson Correlation (r)	.871**	.890**
		Sig. (2-tailed)	.000	.000
		N	100	100
Female	Reading Comprehension	Pearson Correlation (r)	.615**	.703**
		Sig. (2-tailed)	.000	.000
		N	104	104

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

The above (Table 7) demonstrates the bivariate linear correlation between reading comprehension and mathematics, as well as reading comprehension and science scores among seventh-grade secondary-level students regarding their sex. There is moderate to very strong correlation (degree of association) between the Pearson Product Correlation Coefficient of reading comprehension and mathematics as well as reading comprehension and science performance. The correlation is statistically significant between reading comprehension

and mathematics (r= .871, p< .05) and science (r= .890, p< .05) for male students; reading comprehension and mathematics (r= .795, p< .05) and science (r= .876, p< .05) for female students. Before determining r, the assumptions of normality, linearity, and homoscedasticity were evaluated and confirmed. Therefore, there is a significant correlation between reading comprehension and mathematical competence, along with reading comprehension and science performance regarding gender of the students.

4.3 Impact of Reading Comprehension on Mathematics and science Performance

Table 8. Impact of Reading Comprehension on Mathematical and Science Performance at Class Seven

	Beta Coefficient (B)	R^2	df	F	t	p
Mathematics	.802	.644*	1, 202	364.95	19.10	.000**
Science	.836	.698*	1, 202	467.01	21.61	.000**

*Dependent Variable (Mathematics, Science)

** Independent variable significant at the 0.01 level (Reading Comprehension)

Table 8 above presents a model overview, ANOVA, and regression coefficient analysis between reading comprehension, science and mathematical proficiency. If reading comprehension has a significant impact on mathematics and science ability, the hypothesis will be rejected. Mathematical and science performance was regressed on reading comprehension to predict the dependent variable. The seventh-grade students reading comprehension had a strong predictive effect on mathematics and science performance. The findings for mathematics, F (1, 202) = 364.95, p< .05, β coefficient = .802, p< .05 and science, F (1, 202) = 467.01, p< .05, β coefficient = .698, p< .05. Improved reading comprehension positively influenced these outcomes. The beta coefficient (β) indicates that reading comprehension significantly influences an increase in the dependent variable, mathematics and science scores. The R2 of mathematics is .644 indicates that the model accounts for 64.4% of the variance in mathematical performance through the predicted variable. Also, the R2 of science is .698 indicates that the model accounts for 69.8% of the variance in mathematical performance through the predicted variable. Hence, the hypothesis H3 is rejected.

Table 9. Impact of Reading Comprehension skills on Mathematical and Science Performance at Class Seven

Skills		Beta Coefficient (β)	R^2	df	F	t	p
Understanding vocabulary in context	Mathematics	0.278	.652*	5, 198	74.05	5.168	.000**
	Science	0.328	.699*	5, 198	91.98	6.548	.000**

		Beta Coefficient (β)	R²	df	F	t	p
Identifying main ideas	Mathematics	0.164	.652*	5, 198	74.05	3.593	.000**
	Science	0.138	.699*	5, 198	91.98	3.249	.000**
Making Inferences	Mathematics	0.271	.652*	5, 198	74.05	4.784	.000**
	Science	0.281	.699*	5, 198	91.98	5.326	.000**
Predicting outcomes	Mathematics	0.241	.652*	5, 198	74.05	5.065	.000**
	Science	0.239	.699*	5, 198	91.98	5.400	.000**
Drawing conclusion	Mathematics	0.187	.652*	5, 198	74.05	3.624	.000**
	Science	0.179	.699*	5, 198	91.98	3.727	.000**

*Dependent Variable (Mathematics, Science)

** Independent variable significant at the 0.01 level (Reading Comprehension skills)

The above data presented (Table 9) multiple regression was employed to evaluate the predictive capacity of five control measures (Reading skills: Understanding vocabulary in context, identifying main ideas, Making inferences, Predicting outcomes, Drawing conclusion) on mathematics and science performance. Initial investigations were performed to confirm that there were no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. The boxplots showed that each variable in the regression followed a normal distribution and did not have any univariate outliers. Mathematical and science performance was regressed on reading comprehension skills to predict the dependent variable. The seventh-grade students reading comprehension had a strong predictive effect on mathematics and science performance significantly (p< .05). The findings of five reading skills, R2 of mathematics is .652 indicates that the model accounts for 65.2% of the variance in mathematical performance through the predicted variable. Also, the R2 of science is .69.9% indicates that the model accounts for 69.9% of the variance in mathematical performance through the predicted variable. So, Improved reading comprehension skills positively influenced more science performance than mathematics scores of the students.

Table 10. Impact of Learning Domains on Science and Mathematics Performance

Domain		Beta Coefficient (β)	R²	df	F	t	p
Remember	Mathematics	0.262	.659*	4, 199	96.28	4.84	.000**
	Science	0.335	.699*	4, 199	118.71	6.64	.000**
Understanding	Mathematics	0.344	.659*	4, 199	96.28	6.87	.000**
	Science	0.293	.699*	4, 199	118.71	6.27	.000**
Application	Mathematics	0.276	.659*	4, 199	96.28	5.04	.000**
	Science	0.290	.699*	4, 199	118.71	5.68	.000**

Analyze	Mathematics	0.181	.659*	4, 199	96.28	4.09	.000**
	Science	0.177	.699*	4, 199	118.71	4.29	.000**

*Dependent Variable (Mathematics, Science)

** Independent variable significant at the 0.01 level (Reading Comprehension domain)

The above data presented (Table 10) multiple regression was employed to evaluate the predictive capacity of five control measures (Remember, Understanding, Application, Analyze) on mathematics and science performance. Initial investigations were performed to confirm that there were no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. Mathematical and science performance was regressed on reading cognitive sub domains to predict the dependent variable. The seventh-grade students reading comprehension had a strong predictive effect on mathematics and science performance significantly ($p < .05$). The findings of four learning domain of reading, R^2 of mathematics is .659 indicates that the model accounts for 65.9% of the variance in mathematical performance through the predicted variable. Also, the R^2 of science is .69.9% indicates that the model accounts for 69.9% of the variance in mathematical performance through the predicted variable. So, Improved reading comprehension domains positively influenced more science performance than mathematics scores of the students.

Table 11. Impact of Reading Comprehension on Science and Mathematics Performance Regarding Demographic Area

		Beta Coefficient (B)	R^2	df	F	t	p
Urban	Mathematics	.726	.527*	1, 118	131.69	11.48	.000**
	Science	.741	.589*	1, 118	168.86	13.0	.000**
Rural	Mathematics	.708	.726*	1, 82	217.44	14.75	.000**
	Science	.797	.796	1, 82	320.48	17.90	.000**

*Dependent Variable (Mathematics, Science)

** Independent variable significant at the 0.01 level (Reading Comprehension)

Table 11 above presents a model overview, ANOVA, and regression coefficient analysis between reading comprehension, science and mathematical proficiency. The findings for mathematics, $F (1, 118) = 131.69$, $p < .05$, β coefficient $= .726$, $p < .05$ and science, $F (1, 118) = 168.86$, $p < .05$, β coefficient $= .741$, $p < .05$ for urban context. Also in rural context, mathematics scores, $F (1, 82) = 217.44$, $p < .05$, β coefficient $= .708$, $p < .05$ and science, $F (1, 82) = 320.48$, $p < .05$, β coefficient $= .797$, $p < .05$. Improved reading comprehension positively influenced these outcomes significantly. The beta coefficient (β) indicates that reading comprehension significantly influences an increase in the dependent variable, mathematics and science scores. The R^2 of mathematics is .527 and science is .589 indicates that the model accounts for 52.7% (mathematical) and 58.9% (science) of the variance in performance through the predicted variable. Also, the R^2 of mathematics is .726 and science is .796 indicates that the model accounts for 72.6% (mathematical) and 79.6% (science) of the variance in performance through the predicted variable.

Table 12. Impact of Reading Comprehension on Mathematics and science performance regarding Sex

		Beta Coefficient (B)	R^2	df	F	t	p
Male	Mathematics	.871	.759*	1, 98	308.95	17.57	.000**
	Science	.890	.793*	1, 98	374.62	19.35	.000**
Female	Mathematics	.615	.378*	1, 102	61.88	7.86	.000**
	Science	.703	.495*	1, 102	99.85	10.00	.000**

*Dependent Variable (Mathematics, Science)

** Independent variable significant at the 0.01 level (Reading Comprehension)

Table 12 above presents the findings for mathematics, F (1, 98) = 308.95, p< .05, β coefficient = .871, p< .05 and science, F (1, 98) = 374.62, p< .05, β coefficient = .890, p< .05 for male students. Also, for female students, mathematics, F (1, 102) =61.88, p< .05, β coefficient = .615, p< .05 and science, F (1, 102) = 99.85, p< .05, β coefficient = .703, p< .05. Improved reading comprehension positively influenced these outcomes significantly. The beta coefficient (β) indicates that reading comprehension significantly influences an increase in the dependent variable, mathematics and science scores. The R2 of mathematics is .759 and science is .753 indicates that the model accounts for 75.9% (mathematical) and 75.3% (science) of the variance in performance through the predicted variable. Also, the R2 of mathematics is .378 and science is .495 indicates that the model accounts for 37.8% (mathematical) and 49.5% (science) of the variance in performance through the predicted variable.

Recommendations for Teachers

Integrated Approach to Education: The analysis highlights the significance of implementing a comprehensive approach to education that considers the interaction between reading comprehension, mathematical ability, and science performance. This comprehensive perspective recognizes the interconnectedness of various domains and their impact on students' academic performance.

Teachers Guidance for Simultaneous Improvement: Teachers are given recommendations to help students enhance their reading comprehension, arithmetic ability, and science achievement all at the same time. These strategies encompass incorporating reading and writing abilities into math and science lessons, creating projects that span many subjects, delivering clear instruction on problem-solving techniques, tailoring instruction to individual needs, and cultivating a mindset that embraces personal development.

Collaborative Environment Creation: The thematic the description emphasizes the collaboration between schools and teachers in creating an atmosphere that promotes the growth of reading comprehension, arithmetic skills, and science performance. Some recommendations include of interdisciplinary coordination, cross-disciplinary undertakings, opportunities for professional growth, activities that encompass the entire school, and interaction with the community.

Recommended Resources and Tools: Teachers are advised to use resources, methods, and teaching materials that promote the connection between reading, mathematics, and science achievement. Some examples of resources that focus on literacy include textbooks, online platforms, tools for professional development, and possibilities for collaborative networking.

Holistic Approach in Education System: There is an urge for the education system to implement measures that promote a comprehensive and well-rounded approach to education. This entails the implementation of interdisciplinary curriculum frameworks, the provision of professional development and support for teachers, the allocation of resources for cross-disciplinary projects, the promotion of collaboration, and the evaluation of policies to ensure fair and equal access to high-quality education.

In summary, the theme analysis highlights the significance of a comprehensive approach to education that recognizes the interdependence of reading comprehension, mathematics skills, and science achievement. It offers direction for teachers, schools, and the education system to assist in the comprehensive growth and academic achievement of students.

Conclusion

The results show a strong correlation and a sizable influence. This emphasizes how important proficient reading abilities are to academic success in a variety of topic areas of science and mathematics. Since reading is the basis for both problem-solving and the comprehension of complicated ideas, reading skills are essential to improving students' overall academic performance. Thus, in addition to subject-specific training, educators and legislators should place a high priority on comprehensive reading comprehension programs that provide students with the skills they need to succeed in math, science, and other subjects. It can effectively grow well-rounded learners who are prepared to face the difficulties of the modern world by promoting a culture of comprehension and reading skills.

Acknowledgement

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Challenges of Implementing Moral Global Citizenship Education at Secondary Schools in Bangladesh

Dr. Md Khairul Islam[1]
Professor Dr. Ummay Asma[2]
Md. Arifur Rahman[3]

Abstract

This study aimed to explore the challenges of implementing moral global citizenship education at secondary schools in Bangladesh from the perspective of school leadership. A qualitative approach was used. Sixteen head teachers from sixteen secondary schools across eight districts as well as divisions were selected purposively. Two schools (one from rural and one from urban) were selected from each district. To triangulate data about the challenges of implementing moral global citizenship education, sixteen groups of assistant teachers, student representatives, and parents from sixteen schools were also selected. The methods that were used to collect data from the participants were in-depth interviews and focus group discussions. The study employed the "thematic" qualitative data analysis technique. The findings revealed major challenges of implementing moral global citizenship education at secondary schools in Bangladesh from the leadership perspective are: lack of training, limited practices of moral values by the subject teachers, attitude towards new curriculum, academic and administrative load of the teachers and head teachers, the new version of the textbooks, excessive use as well as misuse of the internet by the students, and lack of coordination among the head teachers, teachers and other stakeholders. The findings also revealed that the new curriculum was considered as one of the challenges of implementing moral global citizenship education as the teachers and head teachers were not trained properly. Moreover, the findings indicated that parents' excessive concern for students' results rather than moral development was also a hindrance in implementing moral global citizenship education in schools. The results of this study have several significant implications for research, policies and practices of moral global citizenship education and leadership in schools.

Keywords: Moral Global Citizenship Education (MGCED), head teachers, challenges, secondary schools, Bangladesh

Introduction

"'Global citizens' are made, not born" (Chong, 2015, p.239) and Global Citizenship Education (GCED) is prioritized as critical to students' learning around the world as a way of creating globally competent citizens having multiple qualities (An,

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[1] Professor, IER, University of Dhaka, Email: khairulislam@du.ac.bd
[2] Professor, Training Specialist, NAEM
[3] Assistant Professor, IER, University of Dhaka, Email: arifur.rahman@du.ac.bd

2014; Guo, 2014; Howard & Maxwell, 2023; United Nations [UN], 2015; UNESCO, 2014; 2015; 2016;2018; UNESCO Institute for Lifelong Learning, 2019; Zhao, 2010). With the UN SDGs focusing on GCED through education (UN, 2015), and UNESCO itself noting that "UNESCO is leading global efforts on Global Citizenship Education (GCED), which is at the core of Target 4.7 of Sustainable Development Goal 4 on Education," in particular, GCED has come to the fore as an emerging education agenda (p.16). According to UNESCO (2016), GCED implementation requires that it should be reflected in national education policies, curricula, teacher preparation programs, and student assessments.

According to Veugelers (2011), the moral paradigm of global citizenship is suitable for developing countries because it is more relaxed and it does not conflict with notions of national citizenship. Veugelers' claim is supported by the UNESCO (2018) as it stated that GCED builds on peace and human rights education. This category has also relevance in Bangladesh context since different aspects of human rights education (i.e. sense of justice, awareness of human rights, global fraternity, United Nations Universal Declaration of Human Rights; Convention on the Rights of the Child; different issues of human rights) are reported in the national education policy 2010 (Ministry of Education, 2020), the national curriculum of Bangladesh 2012 (NCTB, 2012), national curriculum framework of Bangladesh (NCTB, 2021). However, literature suggests that the inclusion of different aspects of moral global citizenship in the education policy and curriculum is not enough, rather school leadership, particularly the role of head teachers has huge implications in promoting moral GCED in schools (Cambron-McCabe & McCarthy, 2005; De Schaepmeester, Van Braak, & Aesaert, 2022; Osler & Starkey, 2010).

Cambron-McCabe & McCarthy (2005) argue that for the effective promotion of moral global citizenship education in schools, the school leaders should have a clear understanding of the content of moral global citizenship education, instructional strategies, and a clear focus on core purpose as well as their roles to achieve the purpose. Though, the adoption of Moral Global Citizenship Education in Bangladeshi secondary schools has several obstacles, such as nationalistic viewpoints, conservative policy restrictions, and the requirement for a change to cosmopolitan citizenship education (Lütge et al., 2022). However, we have hardly found that research has been conducted focusing on challenges of implementing of Moral Global Citizenship Education at Secondary Schools in Bangladesh. Therefore, a clear gap was evident in the literature. This study addressed the gap and aimed to explore challenges of implementing of Moral Global Citizenship Education at secondary schools in Bangladesh using simple qualitative research of sixteen head teachers from sixteen secondary schools across eight districts as well as divisions of Bangladesh. So, this study was conducted to get the answer of the question: what are the challenges to implement moral global citizenship

education at secondary schools from leadership perspectives? As a result, this study filled in the gaps and added to the body of knowledge about GCED as well as MGCED in Bangladesh and elsewhere. This study shed light on the challenges of implementing moral GCED, which would immediately affect Bangladesh's implementation of the national curriculum 2012 as well as the new curriculum 2021 that place a specific emphasis on the virtues of moral global citizenship. This study drew inspiration from the UN's SDGs (2015), and to some extent, it considerably helped to meet SDG 4.7, which mandated those signatory nations—including Bangladesh—promoted education for global citizenship to create global citizens.

Policymakers, educators, and teacher education programs could benefit from the study's insights as they move quickly to accelerate secondary school head teachers' leadership roles for the promotion of moral global citizenship education in schools.

Literature Review

Conceptualizing global citizenship education as well as moral global citizenship education

"'Global citizens' are made, not born" (Chong, 2015, p.239). According to Heater (2004), a "global citizen" is a person who belongs to a bigger society. Chong (2015) notes that this membership is significant since it includes a substantial identity and responsibilities outside of the nation-state. Global citizenship education is currently seeing rapid growth as a reform movement in education, and GCED is also connected to aspects of worldwide ethical awareness (Dill, 2012). Many views of what it means to be a global citizen exist, making it a contentious term in scholarly discourse (UNESCO, 2014, p.14). UNESCO (2014) also states that "despite disagreements in interpretation, there is a clear understanding that global citizenship does not imply a legal position. It focuses more on a sense of shared humanity and connection to a larger group (p.14). Instead of being a formal membership, "global citizenship can be understood as an ethos or a metaphor" (UNESCO, 2016, p.2). Global citizenship promotes the development of one's own respect for others and respect for all people, regardless of where they live. It also encourages people to think carefully and critically to create an equal and just society (IDEAS, 2020). According to Zhao (2007), we must teach our children how to be global citizens if we want to ensure a better society and the continuation of human civilization. Zhao (2010) contends that to achieve social justice for everyone; individuals must recognize the connectivity and interdependence of all people, comprehend the nature of global economic integration, appreciate and protect cultural variety and save the planet Earth—home to all living things.

The notion of global citizenship, along with associated concepts like cosmopolitanism, global-mindedness, global consciousness, and world citizenship, has been employed for many years in both religious and secular discussions (Oxley & Morris,

2013). Previously, these ideas were used in a theoretical manner to discuss people's overall global perspective and how (typically privileged) citizens see themselves as part of a global society. However, they now refer to specific efforts made by scholars and educators worldwide to define or shape identities in the era of globalization (Oxley & Morris 2013). Being a "global citizen" focuses on individual students and their peers as proactive participants in creating a fairer and more compassionate world. The statement evokes a strong sense of duty to take care of all individuals, particularly children, as we are all part of the same human community. Employing this method increases the likelihood of transitioning the viewpoint from "them, there" to "us, here" and helping children recognize our interconnectedness with all individuals (Demaine, 2005). The term "global citizenship" is frequently used interchangeably with "multiculturalism" and "globalization," encompassing a wide range of meanings and concepts. It entails a moral and ethical obligation to uphold human rights, ensure economic equity, promote social justice, and maintain environmental sustainability (Demaine, 2005). The concept of a "citizen" entails the notion that individuals have a duty to their community and a commitment to the well-being of fellow community members, whether at the local, national, or global level (Demaine, 2005).

One of the main aspects of global citizenship education (GCED) is the idea of moral obligation rooted in cosmopolitanism (Bosio, 2021). Moral ideals permeate all aspects of life. For instance, critical thinking is sometimes regarded as logical thinking that takes into account several perspectives. However, many decisions rely on moral principles that serve as criteria in the decision-making process (Veugelers, 2002, 2010). Veugelers (2011) argued that Global citizenship comprises a global and a local component. At the local level as well, one should acquire knowledge, openness, take responsibility, create possibilities, and recognize differences. She also noted that global citizenship means that you are prepared to cooperate in increasing the opportunities for all people to enjoy a decent existence. 'Global Citizenship' is conceptualized by Oxley and Morris (2013) utilizing a variety of words, including cosmopolitanism, global-mindedness, global consciousness, and world citizenship. Veugelers (2011) divides global citizenship into three categories, including socio-political global citizenship, which seeks to shift the political power balance in favor of equity and cultural diversity. Open global citizenship acknowledges the interdependence of nation-states in the global era and the potential for cultural diversity. Moral global citizenship is based on equality, human rights, and a focus on global responsibility. Moral GCED mainly pays attention to making the schools truly equitable institutions for everyone (De Schaepmeester, Van Braak, & Aesaert, 2022). OXFAM (2015) provides a guideline for promoting GCED in schools and major aspects included for moral GCED are: addressing issues of peace and conflict from various viewpoints; analyzing the role of religion and religious organizations in global citizenship and global challenges; increasing understanding of diversity by investigating various values, attitudes, and

beliefs; interacting with concerns of social justice, human rights, the interconnectedness of communities, and interdependence of the world; and cultivating empathy, critical thinking, respect for others and the capacity for persuasive argument.

Aspects MGCED in the National Curriculum 2012 and National Curriculum Framework 2021

A curricular framework is typically a set of guidelines and an auxiliary structure meant to aid in the planning and creation of new curricula. It consists of interrelated parts like learning domains and basic learning experiences. The curricular framework is one of the most important instruments for ensuring consistency and quality in a curriculum system. A curriculum framework, according to Borkar (2021), is a collection of guidelines, benchmarks or learning objectives that specify what subjects' students should study. It creates a starting point for what individuals ought to understand and be able to perform upon completion of a course. For a curriculum system to remain consistent and high-quality, a curriculum framework is essential. The creation of a curricular framework necessitates taking into account several elements, such as comprehending and reflecting stakeholder expectations, utilizing both domestic and foreign experiences, guaranteeing stakeholders' usability and utilizing an integrated method (Graham, et al., 2007). Along with other national and international contexts and issues, NCF 2021 was developed with these concerns in mind (NCTB, 2021). The basic principles of the curriculum involve unified and inclusive, non-discriminatory principles (NCTB, 2021) that reflect the importance of Moral GCED. The core competencies underline the significance of MGCED. For instance, a few competencies are:

- Ability to express one's views and opinions properly and creatively according to the context, respecting and understanding the opinions and propositions of others;

- Ability to take logical and the most beneficial decisions for all after considering various aspects of an issue holistically through critical thinking;

- Ability to achieve the qualities of a global citizen by showing love and loyalty to one's own country and upholding own traditions, culture, history, and heritage while respecting differences and diversity;

- Ability to adapt to the changing world through peaceful coexistence while maintaining cooperation, respect, and harmony and to play a role in creating a safer habitable world for future generations; and

- Ability to engage oneself in the welfare of nature and humanity through religious discipline, honesty, moral virtues, and the practice of integrity.

(National Curriculum & Textbook Board, 2021, pp. 27-28)

Role of education institutional head to promote moral global citizenship education

School leadership, particularly the accountability and commitment of head teachers, is well established in the literature for the development of moral global citizenship education (Fullan, 2007; James, Connolly, Dunning & Elliott, 2006; McLaughlin & Talbert, 2006; Osler & Starkey, 2010). While moral global citizenship education's main goal is to advance human rights principles, Osler and Starkey (2010) argue that school leadership has an impact on schools and the development of whole-school initiatives. Principals, vice principals, and head teachers in particular, according to Leonard and Leonard (1999), are essential "in embracing new programs or teaching practices" and are regarded as significant sources of incentive. They assert, however, that school leaders aren't always the most passionate proponents of innovation. In a similar vein, Fullan (2007) argues that school leadership is a challenging process with no guarantee of always yielding positive results. Covell, Howe, and McNeil (2010), on the other hand, provide convincing evidence of the importance of school administrators in promoting successful moral GCED, contending that head teachers' commitment, expertise, and confidence were major drivers of success. However, the literature suggests that challenges are obvious to implementing GCED or any educational innovations at the school level (Witt, 2022; Lütge et al., 2022). Since literature suggests that head teachers play central roles in implementing moral GCED in schools, we explored how the head teachers perceived and experienced challenges to practice their leadership roles for the implementation of moral GCED.

Methodology

We conducted this study using a qualitative approach (Creswell, 2009). According to Patton (2002), qualitative research is a naturalistic investigation that entails studying real-world conditions as they unfold naturally. More particularly, to explore the challenges of implementing moral global citizenship education at secondary schools in Bangladesh, we conducted simple qualitative research of sixteen head teachers from sixteen secondary schools in Bangladesh. We chose simple qualitative research because the nature of this research is to focus on a deep analysis of sixteen head teachers' challenges of implementing moral global citizenship education at secondary schools (Stake, 1995). As Thomas (2011) suggests, this simple qualitative research focused on one subject (challenges of implementing moral GCED), and we looked at it in-depth rather than attempting to generalize from it.

Sampling

We considered the representation of different geographical locations (i.e., rural-urban, disadvantaged areas) sixteen head teachers from sixteen secondary schools across eight districts and divisions were selected purposively. All the head teachers who participated in this study have professional degrees B.Ed., and six have M.Ed. also. Their minimum academic qualification is BA/BSC/ B.COM, and their maximum

qualification is MA/MSc/ M.COM. The minimum experience as head teacher is five years (N=3), and the maximum experience is 24 years (N=1). Three head teachers have considered this purpose; we selected eight divisions- Barishal, Chattogram, Dhaka, Khulna, Rajshahi, Rangpur, Mymensingh and Sylhet. Similarly, we selected eight districts. Two schools (one from rural and one from urban) were selected from each district. Other considerations for selecting schools were government and non-government schools. These considerations helped to understand the head teachers' challenges of implementing of moral global citizenship education from different perspectives of school contexts. To triangulate data about challenges of implementing moral global citizenship education, sixteen groups of assistant teachers, student representatives, and parents from sixteen schools were also selected.

Sources of Data and Methods of Data Collection

The sources of data for this simple qualitative research were sixteen head teachers, sixteen groups of assistant teachers, fourteen groups of parents, and sixteen groups of student cabinet members. The methods that were used to collect data from the participants were in-depth interviews, and Focus Group Discussions (FGDs).

Tools of Data Collections

Different tools were developed and used to collect data from different sources.

In-depth interview schedule

Yin (2009) argues that interviews are important sources in case study research. In-depth *one-on-one interviews* were used as a method of data collection. An interview schedule was developed for the head teachers connected to the research focused on the flexible ordering of questions (Yin, 2009).

FGD guideline

Focus groups, according to Creswell (2012), can be used to generate both shared understanding and distinctive opinions from a group of people. It was one of the crucial techniques for gathering data for qualitative study (Yin, 2009). As a result of using this application to gather information from assistant teachers, parents, and members of the student cabinet, several FGD guidelines were developed.

Methods of Data Analysis and Presentation

The research employed the "thematic" qualitative data analysis technique (Braun & Clarke, 2006). Following the six stages of data analysis proposed by Braun and Clarke (2006), we first became familiar with the data before developing preliminary codes based on it. In the third step, we looked for several themes, and in the fourth stage, we reviewed

the themes. Various themes were identified and named at the fifth stage, and a report was generated.

Ethical considerations

In this proposed research we followed all ethical procedures (Creswell, 2012), for example, codes were used (i.e., HT-1: Head teacher-1; T1FGD1: Teacher-1 FGD-1; P1FGD1: Parent1FGD1; S1FGD1:Student1FGD1) for the participants rather than their names to ensure their privacy and security. Written consent has been taken from the head teachers, teachers, parents, and students. Before obtaining their written consent, the aims and objectives of this research, procedures, and potential risks and discomforts related to this research were explained. The names of the schools have not been disclosed in the research report. A written permission was taken from the Directorate of Secondary and Higher Education (DSHE), Ministry of Education, Bangladesh.

Findings

Lack of professional learning

Based on the analysis of data, findings suggest that lack of professional learning on MGCED is one of the significant challenges for the head teachers to implement MGCED at the secondary schools in Bangladesh. Most of the head teachers claimed that they did not receive proper training on MGCED, and almost all of them argued that they need to understand the idea of MGCED and the strategies of implementation. One of the head teachers (HT-5) said, "Truly speaking, I am not sure about the policies and instructions for global citizenship education as well as moral global citizenship education for our schools. So, I need to know first". Head teacher- 8 said, "We do have not any training on global citizenship education, how can we practice global citizenship?" Head teacher -11 said, "If we don't know the recipe of making a cup of tea, we cannot make it. Like without knowing the exact way to promote global citizenship education, we cannot do it properly". While there are different strategies for promoting moral global citizenship education, a few number of head teachers (4 out of 16) noted that practicing religion is the only way to learn and promote moral global citizenship. This statement indicates that head teachers were not clear about the idea of moral global citizenship education. Head teacher-13 said, "I have received training on monitoring and supervision as well as curriculum dissemination but have not received training about any specific topic like moral global citizenship education". Most of the head teachers also claimed that lack of professional learning of the assistant teachers has strong connection with the leadership challenges of MGCED implementation. They argued that the success of the head teachers depends on the activities and commitment of the subject teachers and their professional learning for MGCED is essential. For example, one of the head teachers (HT-15) said, "I cannot ensure the moral development of the students if the subject teachers do

not try. But my teachers do not have training in this area". Most of the subject teachers agreed it. Overall, it can be stated that a major obstacle to the implementation of moral global citizenship education in Bangladeshi secondary schools is the lack of professional learning among teachers and head teachers. This suggests that the head teachers' leadership has not yet developed a coherent plan for integrating moral global citizenship education across subjects, classroom and school activities.

Limited practices of moral values by the subject teachers

Findings reveal that promoting moral global citizenship education in schools is severely hampered by subject teachers' inadequate application of moral principles. More than half of the head teachers said that limited practices of moral values by the subject teachers create challenges for them for practicing moral values in the classrooms and schools. Head teacher-10 said, "Many subject teachers have great apathy towards tuition. I know they need financial support from tuition but I have objections when I find theme dedicated to tuitions rather than their regular activities. This kind of teachers cannot promote moral values since they are not morally right". Head teacher -14 said, "When I observe the class, teachers try to practice equality, tolerance and moral qualities by heart and soul, but later they do not do that. Actually they do not do it from their hearts". He added that without the teachers practicing moral values, it is not possible to encourage students to practice moral values in their regular classroom and school activities. One of the head teachers (HT-12) said:

> Several times, I requested my teachers to be examples of ideal human beings so that our students can follow them but I failed. Some teachers have limitations from moral ground and this is well known by the students and parents. For example, giving good marks to the students who come to the teachers for private coaching.

Another head teacher (HT-3) said:

> We all know that teachers serve as role models for students. Teachers' behavior significantly influences students' attitudes and actions. When teachers fail to practice moral values in the classrooms and schools through their activities they cannot influence students for their moral development. Actually, many of our teachers failed to present them as role models for the students.

A very similar finding is evident based on the analysis of the parents' FGDs. Most of the parents believe that though there are teachers who are still very committed and morally strong, and students follow them as idols, many teachers in the schools are failing to develop them and present them positively to their students. Findings also suggest parents' observation about the lack of enthusiasm among some teachers for their moral and professional development. A few number of parents mentioned that a combination of teachers' subject knowledge and moral qualities is a crisis in the schools. For examples, one of parents from FGD-3, said:

I find some teachers who are very brilliant for teaching their subjects but they are not examples of ideal human being for the students as well as for the society. Similarly, I find some teachers who are good human beings but they are not well established as good teachers. It was also evident when I was a school student. Actually, this is a challenge in our education systems. We need model teachers for our children who are good teachers as well as good human beings.

Therefore, it can be concluded that a lack of culture of practicing moral values by the subject teachers aligned with the MGCED creates challenging situation for the head teachers to enact MGCED in the schools.

Attitude towards new curriculum

Findings suggest that the attitude of the head teachers, subject teachers, and parents to the new curriculum is another challenge for the head teachers to play roles for implementing MGCED. Including head teachers themselves, subject teachers and parents believe that new pedagogical approaches as well as assessment strategies adopted in the new curriculum obstruct the practices of moral values in the classrooms and schools. More than half of the head teachers (9) said that the assessment system according to the new curriculum framework was one of the challenges for promoting moral global citizenship education. They also added that according to the new curriculum framework they had to use triangles, circles, and squares for assessing students which was a vague way to assess students properly. Head teacher-9 said, "I think that the assessment system of the new curriculum framework is not proper, especially high achiever students will not be motivated to do better in future if they do not get proper recognition". Head teacher-11 pointed out, "Most of the directions of the new curriculum framework are not clear to me, so I cannot promote moral global citizenship in my school". Another head teacher (HT-6) said:

I agree that the aspects of new curriculum are supportive for the development of knowledge and understanding of the students about human rights, as well as for their moral development. But we, particularly the government and policy makers should understand that Bangladesh is not a country like Netherland or Finland.

However, head teacher-11 said, "I like the new curriculum framework very much because it has emphasized activity-based learning but for achieving its objectives, more training for the teachers and contextualization of the different aspects are needed". Subject teachers' opinions are very similar to the overall opinions of the head teachers. Though some of the parents showed positive attitudes about the potentials of new curriculum for practicing moral values by the students, most of the parents were found unaware as well as having negative attitudes about the new curriculum.

Academic and administrative load

The research findings demonstrated that fostering moral global citizenship education in the schools was hampered by the head teachers' and teachers' administrative and academic workloads. A significant number of head teachers (8) noted that they are overburdened with administrative and academic responsibilities, making it difficult for them to devote more time to building a school culture that upholds the moral principles of global citizenship. Similarly, they added that teachers in their schools are overloaded, and they do not get sufficient time to plan their lessons and different activities that can be supportive of the moral development of the students. For example, Head teacher-6 pointed out that, "generally teachers get 35-40 minutes to conduct a class, so, how they can promote moral global values within this time". Head teacher- 16 said, "I have to do other tasks related to school. Sometimes I am not able to conduct class properly focusing moral development of the students". Similarly, the assistant teachers/subject teachers argued that generally they are overloaded, and they get a very little time for the preparation of their lessons. Some assistant teachers noted that excess academic load and lack of preparation have negative consequences on teachers' motivation and commitment.

The new version of the textbooks

Six head teachers said that the new version of the textbook is one of the challenges for promoting moral global citizenship. Head teacher-9 pointed out, "Students want mobile to their parents for academic purposes but they use it for unfair activities". Head teacher -13 said, "Students use social media and learn other cultures which might be not appropriate for them. This is one of the main reasons for hampering their moral values". Head teacher-12 noted, "I think prior knowledge is necessary for activity, but current textbooks place too much emphasis on activity, which can hinder students' cognitive development". Opinions of some assistant teachers were supportive of the head teachers.

Excessive use as well as misuse of the Internet by the students

More than half of head teachers argued that excessive use of the internet was the main challenge behind promoting moral global citizenship. Head teacher-1 said, "Excessive using of mobile and internet demolishes human moral values as well as ethics that is a major challenge of promoting moral global citizenship". Head teacher-16 pointed out, "Today internet is available that is why students are getting addicted to the internet and they show indifference to obey social norms". Head Teacher-13 pointed out that though the students use their mobile phones at home, the negative effect is found at schools in their behavior and activities. Both the assistant teachers and parents' opinion were supportive of the head teachers. Though a few numbers of parents acknowledge the necessity of using mobile phones and the Internet for study, they do not disagree with the negative consequences of using mobile phones and

the Internet. Students' opinions are supportive of this challenge. They agreed that they use mobile phones for both their study and entertainment (i.e., YouTube Videos) and a few of them mentioned that they try to prove to their parents that they are using phones and the internet only for their study.

Parents' excessive concern for students' results rather than other development

Findings suggest that parents' excessive concern for students' results rather than other development plays a role as an obstacle for the head teachers to pay more attention to students' moral development. For example, HT-13 said, "When we organize meetings with parents, they first seek attention towards specific subjects where students do not obtain good marks according to their expectations". About all of the head teachers mentioned that this kind of concern has been increased due to the implementation of the new curriculum in Bangladesh. Three head teachers mentioned that some parents interfere with schools' decisions related to students' results and other activities which create real evidence of unethical activities by the head teachers, teachers, and parents. One head teacher (HT-16) went on to say:

> *We, the school authority including SMC decided that students would not be allowed for SSC examination who would not be able to pass in the test examination. However, parents support letting their children sit for the SSC examination even when they perform poorly in the test examinations. In addition, they engage powerful persons to deal with these issues. Finally, we have to change our decision. For example, this year we allowed more than fifty students to attend SSC examination who did not pass the test examination. This is known to all the students and parents. So, how can we motivate students for their moral development when we are engaged in unethical activities?*

Another head teacher (HT-15) said:

> *We know that the Government enacted a Student Cabinet in the schools to develop students' democratic values and leadership skills. However, holding a fair election in the school is challenging due to parents' unethical expectations. Some parents interfere during the election of the student cabinet and advised us to elect their children by adopting unfair means.*

The assistant teachers also agreed with the head teachers.

Socio-economic status of parents

A few head teachers (6) pointed out that parents are not interested in coming to school and discussing issues related to the development of students' moral aspects when they are invited. The reasons behind this issue are the poor economic background of the parents, their daily engagement in works, and lack of education. Head teacher-8 said, "When parents are

called for a meeting, they do not come, rather they suffer from an inferiority complex due to their professional status and education qualifications". Another head teacher (HT-7) said, "Parents with lower socio-economic status and education qualifications are not interested to sit together and discuss issues with the parents who are rich and have good education qualifications". Findings from the analysis of data collected through FGDs with the assistant teachers and parents support the opinion of the head teachers. As a whole findings suggest that socio-economic status of parents creates obstacles for the head teachers of some schools for building a whole-school culture of MGCED.

Lack of infrastructure and resources in the schools

The implementation of human rights values and the moral development of students require, among other things, the provision of clean, safe restrooms, a large, secure playground, a library with an adequate number of books, multimedia resources, teaching aids, ICT facilities (computers, internet connections), and amenities necessary for children with special needs (ramps, for example). While just three head teachers made statements regarding the state of the schools' infrastructure and resource availability, the majority of them stated that they had difficulties as a result of these factors. They explained how a lack of resources creates obstacles to practicing the moral values of students. For example, one head teacher (HT -16) said:

> *Our new curriculum promotes experience-based learning but we cannot ensure all learning through real experience like Japan. I watched video demonstrating Japanese children practicing moral values on a bus. The schools in Bangladesh can't use buses to practice moral values due to contextual reality. But we can show this video to the students. Unfortunately, we have only one classroom equipped with multimedia. Therefore, providing indirect experience to the students using videos is also challenging for our teachers.*

Lack of coordination

Approximately half of the head teachers (7) pointed out that there is a lack of coordination among the teachers, students, parents, the community, the education officers as well as higher authority. Head teacher-3 said, "When parents are called for any meeting, the presence of the parents is very low, especially the parents in the village show limited concern towards the moral development of their children". One of the head teachers (HT-10) said:

> *Sometimes, an education officer visits the school but does not take any initiative to solve any problem or even inform the higher officials. He never pays attention to the moral aspects of the students through school education. Rather, he pays attention to some routine administrative works. If the education officer pays attention to the moral development of students and asks teachers, students and parents about it during*

his visits, it would be helpful for me. It is difficult for me to work alone without the supports from others.

Findings from the analysis of data from the parents and assistant teachers indicate similar gaps in the coordination among different stakeholders. For examples, some parents blamed the head teachers and teachers for lack of coordination among parents and schools. Similarly, some assistant teachers blamed the parents showing concerns that some parents are not cooperative to schools and teachers. Therefore, it can be concluded that lack of coordination among the stakeholders was one of the significant challenges for the head teachers to implement moral GCED in schools. In addition, most of the head teachers were unable to show initiatives towards developing coordination.

Discussion and Conclusion

The literature on the development of moral global citizenship education has shown the importance of school leadership, especially the responsibility and dedication of head teachers (Fullan, 2007; James, Connolly, Dunning & Elliott, 2006; McLaughlin & Talbert, 2006; Osler & Starkey, 2010). Although advancing human rights values is the primary objective of moral global citizenship education, Osler and Starkey (2010) contend that school leadership affects schools and the creation of whole-school initiatives. According to Leonard and Leonard (1999), principals, vice principals, and head teachers, in particular, are valuable "in embracing new programs or teaching practices" and are thought to be important sources of incentive. However, they contend that not all school administrators are ardent supporters of innovation. Similar to this, Fullan (2007) contends that school leadership is a difficult process that does not always produce favorable outcomes. We examined what kinds of challenges head teachers faced in implementing moral GCED from the perspectives of curriculum implementation, school ethos, classroom teaching and assessment, co-curricular activities, community participation, and engagement of student representative bodies (Student Cabinet), as the literature suggests that head teachers play key roles in implementing moral GCED in schools. Findings revealed that most of the head teachers participated in this study were not able to show their leadership potentials for implementing moral GCED in schools and brining expected outcomes in this area due to many potential challenges from their perspectives. The identified major challenges are: lack of professional training for MGCED; limited practices of moral values by the subject teachers; attitude towards the new curriculum which creates new approaches for students' assessment; excess administrative and academic pressure on the head teachers and teachers; new versions of textbooks having limited content; excessive use as well as misuse of the internet by the students; parents' excessive concern for students' result rather than other development; socio-economic status of parents; and lack of infrastructure and resources in the schools.

It can be argued that the challenges of implementing MGCED are many and diversified, which requires a critical and common understanding of MGCED before it can be practiced at schools. Without further professional development of the head teachers and teachers and addressing existing challenges, the noble goals of the national education policy 2010, national curriculum 2012, and the National Curriculum Framework 2021 having focus for creating morally competent global citizens through education would be really difficult. Particularly, Cambron-McCabe and McCarthy (2005) argue that for the effective promotion of moral global citizenship education in schools, the school leaders should have a clear understanding of the content of moral global citizenship education, instructional strategies, and a clear focus on core purpose as well as their roles to achieve the purpose. Based on the findings and discussions, professional learning on moral global citizenship education for the head teachers and teachers is strongly recommended. While this kind of professional learning will help the head teachers accelerate their leadership roles for implementing MGCED in schools, effective implementation of MGCED by the assistant teachers or subject teachers will help the head teachers for creating a whole school culture for MGCED. Strategies for leadership awareness among the head teachers, awareness building among the stakeholders including parents and local community about the aspects of moral development of the students, awareness building among the students about moral aspects of using technology as well as internet, increasing students' engagement in different co-curricular activities, reducing disparities among schools in terms of facilities and resources allocations, establishing effective monitoring mechanisms, and creating a culture of holistic development of students through education rather than focusing on results only are strongly recommended. UNESCO (2011) states that for moral GCED education to be effective, programs must be context-specific: they must draw on national experiences and current social, economic, and cultural contexts. To realize realities, Vanobbergen (2012) emphasizes the significance of socio-historical context, and Bajaj (2011) suggests reconciling "existing community realities and society institutions" (p. 207). According to Osler (2015), theory and practice in the field of human rights education (HRE) should consider "the historically and socially particular circumstances in which learners experience education and justice/injustice in their own lives" (p. 265). Based on the findings and insights from these scholarly literatures context-based policies for MGCED and realist implementation strategies are also recommended.

Both of the National Curriculum of Bangladesh 2012, and the National Curriculum Framework (NCF) 2021 offer enormous opportunities for promoting moral and global citizenship education. The research findings could be useful to policymakers, educators, and teacher preparation programs as they swiftly advance the leadership responsibilities of secondary school head teachers in promoting moral global citizenship education in classrooms and schools The study's findings have a number of important

implications for moral global citizenship education and leadership in schools, as well as for research, policy, and professional development for school leaders to support MGCED. The research's conclusions can spur head teachers, educators, parents, and other stakeholders to take the lead in establishing moral global citizenship education operations in classrooms, schools and other educational settings.

Acknowledgement

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Factors Affecting the Performances of Teachers: A Study on the Higher Secondary Level in Bangladesh

Dr. Md Jahangir Alam[1]
Dr. Md Harunur Rashid[2]
Shamsun Akhter Siddiqie[3]

Abstract

This research looks at the variables that affect the performance of high school teachers in Bangladesh, namely those who work for the government and those who work for non-government organizations. Interviews and focus groups were used to gather data for a mixed-method study that included thematic analysis. Inadequate compensation, professional discontent, and a lack of incentives were among the concerns brought to light via thematic analysis of stakeholder viewpoints as having an impact on teachers' motivation and performance. To increase teacher performance and assure the provision of excellent education at Bangladesh's upper secondary level, strategic interventions are urgently needed. These interventions may include wage upgrades, professional development programs, and administrative changes.

Keywords: Teachers' Performance; Higher Secondary Education; Bangladesh.

Introduction

A country's entire educational system is its cornerstone. The development of a nation is directly proportional to the advancement of its students (Hanushek & Kimko, 2000). The standard of their students and the talents they possess are raised by their teachers. Despite this, few researches have been conducted to determine how effective the performances of teachers are. Deciding on the elements that influence their performances is vital to get an accurate assessment of this. The efficacy of a specific teacher's lesson/way of teaching has been deteriorating in Bangladesh, and the time has come to investigate the underlying reasons for this trend.

According to Nel *et al.* (2014), teachers are among the essential stakeholders in the education system. The quality of the education students get directly correlates to how effectively teachers carry out their professional responsibilities (Wiers-Jenssen *et al.*, 2002; Kindall-Smith, 2004). Bangladesh has recognized the relevance of evaluating the work of

Corresponding author. Email: mjalam.jsc@du.ac.bd
[1] Associate Professor, Department of Japanese Studies, University of Dhaka
[2] Training Specialist, National Academy for Educational Management
[3] Assistant Director (R&D), National Academy for Educational Management

secondary school teachers and has developed a system of assessment to ensure that teachers meet the requirements (Rahman *et al.*, 2018). However, there is a shortage of studies on the effectiveness and fairness of this system. As a result, it is essential to conduct a comprehensive analysis to evaluate the shortcomings of the system and provide suggestions for how they might be improved. This study aims to assess teacher performance at the upper secondary level in Bangladesh with a particular emphasis on examining the strengths and shortcomings of the existing system, the factors that affect teacher performance evaluation, and provide suggestions for improving the system. In addition, the global impact of recent pandemic has brought to light the need for ways of assessing a teacher's performance that are more flexible and adaptive. This study thus specifically aims to investigate teachers' performances and the factors contributing to that at the higher secondary level in Bangladesh.

The study used a mixed research approach to gather data through a structured questionnaire from survey, semi-structured questionnaire for interviews, and then analyzed that data. Methods of mixed research includes conducting descriptive analysis, Mean, Median, and Mode analysis, regression analysis, and thematic analysis. It is necessary to identify the factors affecting the educators' performances and then evaluate them to ensure that the educators will receive the support and feedback required to improve their job performance and that the students will receive an education of sufficient quality.

Statement of Problem

Teachers are the architect of a nation, while students are the nation's future leaders. All students will be skilled and well-educated if the teachers are well-educated and well-versed. Moreover, as Bangladesh is a developing country, students must lead and organize all the activities of the country for further development. Since teachers are there to facilitate these students' learning and prepare them as future leaders, teachers need to perform their best. In this case, assessing teachers' performances and identifying the factors affecting their performances is crucial at the higher secondary level. Though all teachers are well-educated, skilled, and knowledgeable, many fail to ensure the quality of education (Ashton, 1984; Hammond, 2007). However, some can make the students understand the subject, while others cannot (Shulman, 1986; McDiarmid & Wilson, 1991). Consequently, only a few teachers are liked by students. Also, students think that some teachers do not teach well in the classroom. This study will address why they cannot perform at their best at college and how they can improve their quality and skills.

Identifying the factors that affect the performances of the teachers and thus assessing the reasons for not performing at their best, this study will be conducted to address those issues or determinants. Although a few teachers lack the necessary wisdom in the relevant field, educational evaluation is a potent tool for improving classroom management and student achievement (Mohiuddin, 2015). Quality education is crucial for a nation's economic, diplomatic, and cultural advancement. Bangladesh's education is struggling as a result of issues like political interference in faculty hiring, a lackluster evaluation and surveillance system, a lack of faculty and administrative staff responsibility, unanticipated politics in educational organizations, inadequate curricula and syllabi, a dearth of high-quality studies, an absence of

adequate infrastructure, and a deficiency of modern instruction methods (Ullah *et al.*, 2020). On the other hand, higher secondary exams in Bangladesh significantly affect the education system, teachers, parents, and the broader community as it is the initial step to achieving higher education (Al-Amin *et al.*, 2018). Teachers at secondary schools in Bangladesh recommend altering the law to emphasize evaluation for learning to guarantee the best teaching and high-quality education (Rahman, 2018). This research will also make recommendations to address these issues at the higher secondary level education.

The rationale of the study

Education is the backbone of a nation. A nation's advancement depends on students' development (Hanushek & Kimko, 2000) while teachers develop the quality and skills of students. It is, therefore, crucial research to assess the teachers' performance. It is necessary to ascertain the causes that influence their performances. Teaching efficiency for some teachers is decreasing gradually, and it is time to choose the hidden reasons (Wankat & Oreovicz, 2015). A few studies have been conducted to assess teachers' performances at the higher secondary level in a specific subject.

This research also addresses the literature gaps that have been found. The researchers will also seek the opinion of different relevant professionals, academics and teachers. This paper reveals various creative ideas for boosting teachers' performances and eliminating the barriers and obstacles they face. It also encloses current education policies for teachers. The role of teachers in attaining Sustainable Development Goals is significant. It is expected that the findings of this research will help teachers ensure Quality Education and play other roles in achieving Sustainable Development Goals.

Objectives of the Study

The overarching objective of this research is to ascertain the factors behind the mismatch in teachers' teaching outcomes at the higher secondary level in Bangladesh. The specific objective of the study is-

1. to determine the factors affecting teachers' performances and to find out the ways to improve teachers' teaching outcomes to ensure better teaching performances.

Research Question

Based on the evaluation of the existing works and the research gaps, this research will try to address the subsequent inquiries:

1. What are the personal factors, learner-related factors, and institution-related factors that affect the performances of teachers?

2. How can the teaching outcomes of teachers be improved to ensure better teaching performances?

Limitations of the Study

Since there is a shortage of time, it would be impossible to find all kinds of problems within the underlining issues. Thus due to a time shortage, it is anticipated that it might not be possible to see all courses of action to overcome all difficulties. Besides, since it is the first time to investigate the factors contributing to the teachers' performances at the higher secondary level, expected number of secondary data might not be found. , Due to logistical and or financial limitations, the researchers were unable to interview all relevant stakeholders or access all relevant documents. This could potentially constrain the rationality and consistency of the findings,and the result might vary from the practical development, which would be considered a limitation.

Review of Literature

Effective teacher training is crucial in enhancing instructional quality and ensuring positive student outcomes. While models such as Service Quality Model and Service Performance Model have been employed to assess educational services, they have limitations that need to be addressed (Chen, 2009). A focus on teacher training is essential for improving educational practices, as noted by Yurtseven *et al.* (2021), who highlighted that disregarding student diversity leads to teacher dissatisfaction and stifles professional growth. This emphasizes the importance of targeted teacher development initiatives that support innovative teaching methods.

Barrera-Pedemonte (2016) examined the impact of teacher professional development (TPD) on instructional methods, demonstrating that teachers who engage in curriculum-focused TPD are more likely to adopt varied teaching techniques. Similarly, Fauth *et al.* (2014) found that student evaluations of teaching quality, particularly in areas such as cognitive engagement and classroom support, are predictive of both student and teacher performance, reinforcing the need for structured teacher training programs.

Further studies highlight the impact of teacher-student interaction on learning outcomes. Kunter *et al.* (2007) observed that student interest in subjects like mathematics is closely linked to the quality of teacher explanations and classroom management. This underscores the importance of professional training that equips teachers with skills to manage diverse classroom dynamics. Richter *et al.* (2011) also noted that mid-career teachers benefit most from formal learning opportunities, suggesting that continuous professional development is critical throughout a teacher's career.

Chen *et al.* (2022) extended this discourse by exploring the relationship between classroom management and student achievement, emphasizing that effective classroom strategies significantly improve students' academic performance and emotional well-being. Cross-national studies, such as Lewis *et al.* (2005), comparing classroom management practices in Australia, China, and Israel, revealed cultural differences in disciplinary approaches, further highlighting the need for context-specific teacher training.

Classroom disruptions, a key factor affecting instructional quality, were examined by Burns *et al.* (2021), who noted that perceived disturbances impede effective teaching. Junker

et al. (2021) found that low student engagement and motivation are primary stressors for teachers, reinforcing the need for teacher training programs that address both academic and emotional aspects of teaching.

Professional collaboration also plays a crucial role in teacher performance. Reeves *et al.* (2016) found that collaborative lesson planning significantly enhances teacher satisfaction, optimism, and student outcomes in Japan and the US. However, Carpenter *et al.* (2022) pointed out that while co-teaching and crowdsourcing are beneficial, they are often hindered by strategic and internal challenges. The emergence of online learning communities has provided new avenues for professional development, as shown by Macia *et al.* (2016), who emphasized the positive impact of online networks on teacher innovation and creativity.

In the digital age, informal online education has become an increasingly important tool for teacher development. Tan *et al.* (2022) found that online informal learning is most effective when time constraints are minimal, suggesting that integrating digital platforms into teacher training can foster greater innovation. As education continues to evolve, especially in response to the challenges posed by the pandemic, it is essential to promote informal online learning environments that encourage continuous teacher development.

Methodology of the Study

Sampling

This study is exploratory, based on empirical rationale, and weave new knowledge into inductive reasoning theories. In addition, five concerns were evaluated during the data collection planning process: the goal, the sample, the unit of analysis, the data collection technique, the analysis techniques, and the pragmatic repercussions for Bangladesh. The sampling size was purposive random sampling to understand better the factors behind teachers' unequal classroom delivery in achieving quality education and how to address those issues.

Table 1. Sampling Details

Participants' Group	Sample Size
HSC Level Teachers (Government)	75
HSC Level Teachers (Non-Government)	75
Head of the Institutions	20
FGD with Students	4 FGDs
Education Specialists and Policymakers	10
Total Sample	**180**

The random sampling method chose 75 150 teachers from government (75) and non-government (75) higher secondary colleges, ensuring a proper mix of urban, semi-urban and rural institutions. The FGDs and KIIs were conducted with these samples to understand the phenomena properly.

In addition, researchers acquired data from colleges of two divisions in Bangladesh, particularly Dhaka and Sylhet, considering the percentage of GPA-5 and passing rates at the HSC (Higher Secondary Certificate) level of the colleges.

Conceptual Research Framework

The following figure depicts a process framework for obtaining the teaching skills and the outcome of providing a platform for Quality Education, where continual improvement of skills ensure the model's endurance with the support of skills development programs and some supporting elements needed for teaching skills development amongst the teachers. Developing a skills development network requires the integration of training institutes, research firms, vital organizations, and stakeholders. In addition, supporting variables (e.g., economic, technical, resource, and administrative) from the government and affiliated institutions may benefit teaching skills development. According to this framework, an individual's level can be enhanced via skills development. Perceived skills will construct a sustainable teaching method via skills development, enhancing Quality Education.
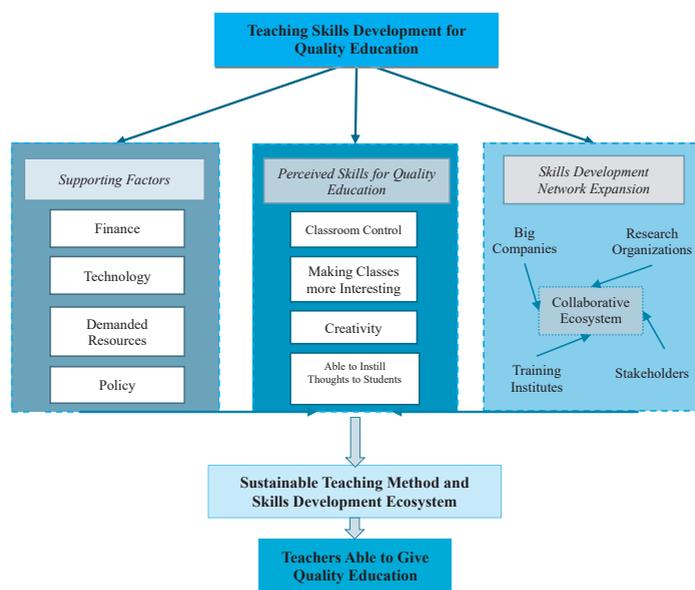

Figure 1. Conceptual Research Framework

In this study, the application of the Theory of Change (ToC) framework facilitated the comprehensive understanding of how changes occur within the context of the Higher Secondary level teacher performance. The ToC framework serves as a vital tool to elucidate the intricate dynamics influencing the efficacy of teacher performance and shed light on the necessary interventions for improvement.

Initiating with a contextual analysis, the ToC framework identified the specific challenges associated with teacher performance at the higher secondary level. These challenges encompassed a range of internal and external factors that collectively contribute to the current state of education quality. Subsequently, the framework outlined the input, delineating the contributors that play a pivotal role in enhancing teacher performance. These inputs encompassed factors such as curriculum enhancements, professional development programs, student engagement initiatives, and supportive administrative policies.

Moving along the pathway, the framework outlined the outputs resulting from the strategic implementation of these inputs. These outputs span both short-term and long-term dimensions, encompassing the immediate effects of improved teacher training, enhanced classroom methodologies, increased student participation, and the gradual development of an effective teaching ecosystem.

The ToC then ventured into the realm of outcomes, envisioning the transformational shifts anticipated due to the inputs and outputs. In the short term, the envisioned outcomes included heightened teacher motivation, improved student engagement, and enhanced classroom dynamics. The long-term outcomes painted a picture of comprehensive educational reform, characterized by elevated student achievement, holistic growth, and the gradual elevation of the overall educational landscape.

Through the lens of this ToC framework, it becomes evident that the intricate web of factors influencing teacher performance at the HSC level necessitates a multi-faceted approach. The strategic incorporation of inputs, the orchestration of activities, the cultivation of short-term and long-term outcomes, and the ultimate realization of impact converge to create a roadmap for nurturing a more proficient and impactful educational landscape. As these efforts ripple through time, they hold the potential to reshape the trajectory of education and bring about enduring positive change.

Theory of Change in the Education Sector						
Problems	**Inputs**	**Activities**	**Outputs**	**Short-term Outcomes**	**Long-term Outcomes**	**Impact**
•Teachers' level of service is not identical •Internal and external factors contribute to the uneven performance •The level of service impacts significantly on the outcomes of the HSC students.	•Revamped pedagogical training •Enhanced teacher support system •Increased resources for teachers •More teacher-friendly policies	•Conduct intensive training workshops on modern teaching methodologies •Implement the updated curriculum in classrooms •Facilitate teacher collaboration and professional growth	•Improved teacher competencies in classroom management •Rise in quality education delivery. •Enhanced student engagement and learning outcomes	•Adoption of effective teaching strategies •Improved student achievement and performance •Cultivation of critical thinking and problem-solving skills in students •Changes in attitude. •Better motivation and aspiration.	•Elevated HSC level education quality •Increased student readiness for higher education and the workforce •Growing number of quality institutions •Elevation of the prestige and quality of teaching as a profession.	•Growth of the education sector. •More skilled human resources to contribute to the economy and development. •Better job creation and better opportunities. •Scope to increase qualified and skilled educators for the future

Findings and Discussion

Strategies to Improve Teacher's Performance

The researchers conducted KIIs and FGDs with different levels of stakeholders. This section analyzes and reveals the strategies or recommendations on how to improve the performance of the teachers in the higher secondary level of Bangladesh.

Perspective of the Students

Firstly, as the targeted beneficiaries are the students, the research focused on getting their opinions on the situation of the teacher's performance and how it could be improved from their perspective. The following table ranked the most common answers against the questions of "What are the reasons behind liking or disliking a teacher's class?"

Table 7. Students perspectives on liking and not liking teacher's class

Rank	Reasons of Liking	Percentage (N)	Reasons of Not Liking	Percentage (N)
	Interesting lecture delivery style	30% (12)	Out of subject discussion	35% (14)
	Way of explanation with real-life examples	20% (10)	Only theoretical lectures instead of explanation	20% (8)
	Ensures student participation in the class	15% (6)	Insults and scolds in front of class	20% (8)
	Explains further if anyone doesn't understand	10% (4)	Only concentrates on good students	15% (6)
	Recaps previous lessons	10% (4)	Skips syllabus	5% (2)
	Promotes groupwork	5% (2)		5% (2)
	Total	**100**		**100**

According to the findings of the study, thirty percent of the students favoured teachers who demonstrated a distinctive or intriguing approach to the delivery of a lesson. If the surroundings is engaging and not dull , then there will be a higher chance of understanding the subject matter. Teachers who provide real-life examples in addition to the explanation of theories are highly regarded by twenty percent students. This is due to the fact that it enables the students to retain the information for a longer length of time. Teachers' lecture is liked by fifteen percent students when they guarantee students' participation in the class. When a student does not comprehend a concept, even after the teacher explains it to them once, and the teacher continues to explain it to them, students have a positive attitude towards learning. In addition, ten percent of students have a positive opinion of the teacher who reviews their prior lessons before starting a new lesson. This is because it gives the students the opportunity to review the previous lesson and they become aware of the new one that they are going to start. Lastly, the majority of students had a favourable opinion of teachers who encourage or give assignments to groups of students. These are the most important causes that were discovered over the course of this research. Students shared their experiences in the classroom, including the following:

"I enjoy the classes where the teacher makes the topic interesting. It helps me stay focused and understand better."

(Res_05)

"When teachers use real-life examples, it sticks in my mind longer. I wish more teachers did that."

(Res_16)

"It's great when teachers take the time to explain things again if we don't get it the first time. It shows they care about us and they try to make us understand the lesson better."

(Res_24)

On the other hand, the reasons for disliking are also included in the table. Thirty-five percent of respondents said that the most prevalent cause for disliking is when lecturers discuss something unrelated to the lesson and out of context has an effect on their ability to understand the lesson and as a result, they are unable to concentrate on the lecture. Secondly, the majority of the students who gave the reasons why they did not like a lecture said that the absence of explanation is a very significant issue for them. When the idea is not taught in an appropriate manner, the students have a difficulty of understanding . Another big worry that was brought up by the learners , which was expressed by twenty percent of them, is the attitude that the teacher has towards them, which they perceive to be demeaning. It is embarrassing for a student when he/she is humiliated by a teacher in front of the class when the student does not know anything or gives an inaccurate response. This has an effect on the other pupils also. There are some teachers who have a tendency to give attention to the students who are exceptionally intelligent in the class, which causes the other students to feel excluded. Therefore, pupils do not like listening to the lectures of those specific teachers who have a tendency to show favour to certain students in the classroom. Last but not least, a sizeable number of students, which accounts for five percent of the total, said that many teachers do not cover the subjects or courses that are contained in the syllabus:

"It's challenging to focus when the discussion drifts away from the topic. I wish classes stayed more on track."

(Res_03)

"Every student deserves attention, not just the ones who already know the answers. It makes us feel left out."

(Res_19)

Perspective of Teachers and Head of the Institutes

After students, another stakeholder of the research, the teachers were interviewed to see their perspectives on the issue of teacher's performance. The study incorporated both government and non-government colleges as the sample to assess the overall situation.

The following tables depict the perspectives of government and non-government teachers.

table 8. Government high school teachers' perspective behind poor teacher's performance.

Rank	Reasons Indetified
1.	Not enough salary
2.	Professionally dissatisfued
3.	No incentives on good performance
4.	Job posting and transfer issues
5.	Ineffective or no assessment and evaluation system

Table 9. Non-government high school teachers' perspective behind poor teacher's performance.

Rank	Reasons Indetified
1.	Not enough salary
2.	No noteworthy incentives or bonus
3.	Unware of pedagogy and no training on specific subject
4.	House rent
5.	Side-busniess and political involvement

To begin, educators from all regions have voiced significant concerns over the low compensation. Because of this financial constraint, they are not as driven as they may be and are unable to accomplish to the full extent of their ability. Both groups emphasized the necessity of salary hikes as a means of enhancing morale and dedication to their careers in order to achieve optimal results.

In addition, a significant number of teachers working in public/government colleges have expressed their dissatisfaction with their present position, which they attribute, in part, to the fact that they have not achieved their professional objectives. In spite of the fact that they had wanted to work in other areas of the public service, many were compelled to enter the education sector because of their poor performance on tests. Some professionals working for the government are dissatisfied since their professional aspirations and the actual nature of their employment are in direct opposition to one another.

Higher secondary teachers who are not employed by the government, on the other hand, have brought up additional difficulties, such as the absence of major bonuses and incentives. In addition to this, they were concerned that there were not enough opportunities for training and that individuals were not aware of effective instructional strategies, particularly in some sections of the country. Both their capacity to develop as educators and their ability to perform effectively in the classroom are limited as a result of these challenges.

In addition, it was brought to everyone's attention that teachers who worked for non-government organisations had to cope with issues such as managing 'side' businesses or political commitments, whilst teachers working for government organisations had issues with job postings and transfers. The capacity of teachers to give pupils with an education of a higher standard may be jeopardised when they are distracted from their primary responsibilities by conditions that are associated with the outside world.

Conclusion

The findings of this study have offered useful insights into the several factors that influence the efficacy of teachers in upper secondary schools in Bangladesh. The findings of a comprehensive mixed-method approach that included topic exploration revealed that the views of students, instructors, and administrators provide light on a variety of challenges that educators face. These challenges include internal concerns such as knowledge on pedagogy as well as external issues such as political participation. If we want to establish circumstances that are conducive to the growth of a decent education, we need to find solutions to these challenges. Consequently, in order to ensure that children attending upper secondary schools in Bangladesh get an education of a high standard, it is necessary to make administrative improvements, programs for professional development, and salary increases for teachers.

Acknowledgment

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Teacher Education for Secondary School Teachers in Bangladesh: Gaps between Policy and Practice

G M Rakibul Islam[1]
Muhammad Salahuddin[2]
Azwa Nayeem[3]
Biplob Mallick[4]
Afrida Jinnurain Urbee[5]

Abstract

Across the world, ensuring quality teachers and quality teaching in all schools are two major challenges for education systems in both developing and developed countries. Therefore, in its recent education policy, Bangladesh considers the significance of reforming the traditional teacher education system to ensure quality teachers in schools. This qualitative exploratory study explores the policy guidelines for secondary school teachers' education and investigates the discrepancies between policy and practice. It also seeks to understand the needful steps to bridge the distance between policy and practice in teacher education. Data has been collected using semi-structured interviews from secondary school teachers, headteachers, and teacher educators for the study. Based on the thematic analysis, the findings show that the discrepancies in the teacher education system are unaddressed in the existing policies. Identified domains that require immediate policy interventions and amendments are standards for teachers and teacher educators, quality of teacher education programs, participatory policy process and policy implementation.

Key Words: Teacher Education, Secondary School, Education Policy, Policy-Practice Gap, Bangladesh

1.Introduction

Students' learning extensively depends on the teachers they are taught by; thus, teachers are widely acknowledged as primary role-players in providing high-quality education (Whelan, 2009; Rouse, 2012). However, a significant amount of evidence shows that along with national education systems, teachers are struggling to meet the students' learning needs across the world (Forlin, 2008, 2010). Therefore, teacher educators, researchers and policymakers continue debating how teachers should be educated and prepared. As a result, in recent years, teacher education has received significant policy attention as a key aspect of educational reform initiatives (Ahsan, 2015).

[1] Assistant Professor, Department of Educational Administration, Noakhali Science and Technology University, Bangladesh; gmrakibulislam@nstu.edu.bd
[2] Assistant Specialist, National Academy for Primary Education (NAPE), Bangladesh; salahuddin.ier.du@gmail.com
[3] Chairperson, Alokito Hridoy Foundation, Bangladesh; azwa.nayeem@gmail.com
[4] Associate Professor, Department of Education, Noakhali Science and Technology University, Bangladesh; biplob@nstu.edu.bd
[5] Lecturer, Department of Economics, Noakhali Science and Technology University, Bangladesh; afrida.econ@nstu.edu.bd & Corresponding Author

Over the last five decades, Bangladesh has been struggling to ensure appropriate education policy, prepare and recruit qualified teachers, and provide adequate resources in schools. The former Prime Minister of Bangladesh, in the national education policy 2010, regretfully says that "Thirty-nine years have passed since our emergence as a free nation, but no Education Policy has been put to implementation" (MOE, 2010, p. iii). Despite several reports by education commissions proposing evidence-based recommendations, the statement asserts that the problem is yet to be solved. In addition to this, longitudinal analysis confirms the political bias of the recommendations, which may have stifled their efficacy.

A direct link can be established between quality education and quality teacher education because of a positive correlation between teacher performance with student performance. It, therefore, demands clear policies and guidelines on the design and delivery of teacher education. Thus, this study investigates the incongruencies between policy and practice to make suggestions to improve the quality of teacher education, which will consequently improve the quality of student education.

Bangladesh, a country with a vast education system, struggles with various challenges where the scarcity of quality teachers is a crucial one. The Education Minister stated, "Ensuring quality education for all is a great challenge for us. The main important force behind quality education and development of skilled human resources is a team of properly qualified, skilled and committed teachers" (MOE, 2010, P. VI). An increasing amount of research evidence notes this urgency of quality education, which is consistent with the Prime Minister and the Education Minister, but rarely recognizes the significance of high-quality teaching (Rahaman *et al.*, 2010; Rashid and Ritu, 2013).

However, in recent years, Bangladesh has observed some policy reformations in education. And, for the first time in the history of Bangladesh, it has set its vision for 2021. Nevertheless, there are several gaps and challenges in the existing policies and their enactment. One of the major gaps in the education policy is that it does not mention any initial teacher education requirement for joining as a schoolteacher in Bangladesh (MOE, 2010). This study investigates numerous such gaps evident in both the policies and practices to recommend ways of mitigating them.

2. Rationale of the study

Quality of teaching and teachers' quality affects children's learning significantly (Cochran-Smith and Zeichner, 2005; OECD, 2005). Therefore, teachers have received greater attention from policymakers and politicians in recent years as the most significant school resource. Consequently, "Teachers supply, and teacher's quality have become significant policy issues, taken up by policy-makers at the highest levels" of many nations around the world (Furlong *et al.*, 2011). Bangladesh also has emphasized quality teacher development in its recent education policy 2010 and the Education Act 2016 (Draft). Unfortunately, the discrepancies in translating policy into practice is failing to achieve the anticipated benefits in Bangladesh, where 'many of the policies seem to be either politically or ideologically inspired, or an ad-hoc response to an immediate crisis' (Hopkins, Ainscow and West, 1994, p. 16). Furthermore,

the key stakeholders of education usually do not participate in the policy discourses that can reshape or reform implementation-friendly policy. Therefore, to improve the situation, along with formulating policy; it is equally important to ensure stakeholder engagement in the policy process and policy enactment.

Education has become an important issue of public concern and a major political issue in recent years and has received a major focus of media attention (Ball, 2013). Parents and politicians, researchers, and policymakers- everybody is hoping for quality education, to be specific quality schools, for all. Evidently, the quality of schools is measured by students' achievement using high stakes standardized tests where teachers' quality significantly matters. Therefore, teacher education policy is high on national agendas in the Organization for Economic Co-operation and Development (OECD) countries, where the education ministers are committed to increasing the quality of learning for all and teachers' issues are a priority for public policy (OECD, 2005).

Compared to the developed countries, Bangladesh is also trying to develop its teachers' quality and ensure quality education. The government reforms policies, which in turn bring some changes in practice as well. However, the progress has not come up yet with visible changes. Then what is causing this incongruence? This question led the researchers to this investigation.

3. Research Questions

The primary purpose of this study is to analyze the gaps between secondary school teacher education policy and practice. To explore in-depth, the study focuses on three main research questions-

a)   What does the education policy say about the state of secondary school teacher education in Bangladesh?

b)   What gaps in policy and practice need to be minimized to ensure quality teacher education for secondary school teachers in Bangladesh?

4. Methodology of this study

This study followed a qualitative research design. Primarily, it was an exploratory qualitative study in nature where investigating a particular phenomenon was a major concern rather than generalizing the findings. This qualitative study analyzed the national education policy 2010 and the education act 2016 (Draft, formulated in 2013), and interviewed teacher educators, head teachers and teachers.

Data used in this study had been collected from both primary and secondary sources. Primary data were gathered from in-depth interviews with six professionals. The national education policy 2010 and the draft education act 2016 were regarded as secondary data sources for textual analysis of policy documents. A total of six respondents (two teacher educators, two head teachers and two assistant teachers) were selected for the interviews following a purposive sampling strategy. Qualitative data focuses on a smaller number of participants; thus, it is

detailed and rich. However, even with a small sample population, in-depth interviews reveal elaborate and rich data on their understanding of policies and its translation into practices. The data-driven thematic approach suggested by Braun and Clarke (2006) has been applied to analyze the findings.

5. Findings

The findings of this study are based on the research questions that emerged from data and potential sub themes of the documents reviews and participants' interviews.

5.1 Becoming a Secondary School Teacher in Bangladesh

Across the globe, teaching is regarded as a noble profession, though policy interventions in recent years are reducing teachers' autonomy and challenging their professional identities (Day, 2002). Even in the developed world, the change suggested by the policymakers and implemented by governments in education promotes a high degree of uncertainty, instability and vulnerability in teachers' lives and work (Ball, 2003). However, the identity crisis for teachers in developing countries has different dimensions. In addition to the huge workload, teachers are underpaid professionals as well as undervalued (Salam and Islam, 2013).

Secondary schools in Bangladesh can be categorized into two types: public schools and private schools. Regarding management and ownership, more than 98% of secondary schools are run privately, whereas only 327 (less than 2%) out of 19684 secondary schools are fully run with government funding (BANBEIS, 2014; Islam, 2016). Private secondary schools are serving the vast majority of school students in Bangladesh. All the public schools are situated in urban and semi-urban areas, and most of the private schools are situated in rural areas. There is a huge quality gap between these rural and urban schools in terms of students' achievement, teachers' quality and infrastructural resources (MoE, 2010). Along with grants for infrastructural development, private secondary schools receive government funding for 80 percent of teacher salaries on the basis of school registration and eligibility criteria, whereas students in both schools receive free textbooks (Karim, 2004). The teachers of these secondary schools are mainly graduates of different subjects but about 29% (Rashid and Ritu, 2013) hold 'third class degrees' in private schools (Thornton, 2006). In Bangladesh teaching is still considered as a low paid job and teachers are not satisfied with their salary; therefore, they seek different ways to supplement it, mainly through private tuition outside of school hours (Latif and Johanson, 2000; Rashid and Ritu, 2013).

Compared to other countries, Bangladesh has one of the largest low-cost education systems in the world. There are lots of challenging issues for these schools as Karim (2004, p. 26) argues, "Existing schools face shortages of classrooms, furniture and other supplies as well as overcrowding. …There is a severe shortage of teachers and existing teachers lack adequate professional skills." Along with this, externally imposed policies, where the teachers are barely involved in the policy development process, create great pressure on teachers to reach many quantitative targets in schools that demoralizes and discourages qualified teachers from joining the profession.

To become secondary school teachers, it is required to have a college degree (at least 14 years of formal education), with some exceptions in reality (Rashid and Ritu, 2013). The recent national education policy states that teachers have to complete one year Bachelor of Education (B.Ed.) degree within three years of their joining (MoE, 2010). However, findings from other studies show that 58% of secondary school teachers have B.Ed. degrees (Rashid and Ritu, 2013).

5.2 Teacher Education for Secondary School Teachers in Bangladesh

'Teacher education in Bangladesh is mainly provided by government initiative and a very small scale by non-government initiative' (ActionAid, 2016, p. 26). However, there are 136 private teachers' training colleges (TTCs) for secondary teachers in Bangladesh (BANBEIS, 2014), whereas only 14 TTCs are public. Therefore, the government TTCs and Bangladesh Open University (BOU) play the prime role. Along with 14 government TTCs and BOU, 136 private TTCs offer one year B.Ed. degree for teachers at secondary schools, which is a requirement for the secondary school teachers to complete after joining, though the number of students and quality of the program of these private TTCs are subject to questions (BANBEIS, 2009, 2014). However, 'Countries such as Germany, Belgium, France, and Luxembourg have long required from 2 to 3 years of graduate-level study in addition to an undergraduate degree for prospective teachers, including an intensively supervised internship in a school affiliated with the university' (Darling-Hammond, 2000, p. 169-170), which is also found in other European countries (Misra, 2015). The one-year B.Ed. course offered by TTCs and BOU incorporates five critical areas for teachers: professional studies, educational studies, teaching studies, technology and research studies, and school-based teaching practice for 12 weeks in two phases (BANBEIS, 2009).

Only four public universities, two private universities and 11 government TTCs offer a four-year bachelor's degree in education, which is considered as a pre-service teacher education program, and is more targeted to producing teacher trainers and educational officials than teachers (USAID, 2002; Rashid and Ritu, 2013). These are the institutional facilities for secondary school teachers in Bangladesh, though the quality of these institutions varies between public and private (MOE, 2010), and in some instances, these institutions fail to prepare teachers to teach the students confidently (Malak, 2013).

Although the teacher education system has many issues to address, one should also consider that institutionally Bangladesh has a well-established teacher education system in place (USAID, 2002). The infrastructure, curriculum, teaching-learning system, and competent teacher educators are some unsatisfactory quality issues addressed in some research evidence (MOE, 2010; BANBEIS, 2009). Bangladesh has an operational institutional framework within which it can reform its teacher development system by developing implementation-friendly teacher education policy.

5.3 Existing Teacher Education Program: Is it helpful?

Participants respond that they have observed performance differences between the teachers who have B.Ed. and who have not had any training in classroom management, learning assessment, grading the scripts and classroom teaching. However, one head teacher

shares different experience, though he agrees with the significance of teacher education; HT1 replies that

> *I don't see any visible differences among the teachers in my school. We arrange in-house pedagogical training for all the teachers therefore all of them perform quite well in the classrooms. ...And, as the teachers' main objective is to achieve a certificate from the B.Ed. course they do not care about their performance in the classroom.*

There is no controversy among the participants about the significance of the course, but the way the course is planned, designed, and offered is a most debated issue. As T2 argues that

> *...Teacher Education is really helpful, though it largely depends on the teacher's motivation, mind-set and working environment. It helps me teach effectively by following the competency-based lesson plan I learned to prepare from the TE course. However, most of the teachers do not take this course for skill improvement therefore this course does not affect their performance.*

However, participants consider the B.Ed. degree significant in teacher preparation and in teachers' professional development. But, as the objectives of the teachers, in most cases, are to achieve the certificate with minimum effort and without internalizing the content to be able to implement it, the schools do not get the benefits out of this program.

Along with this, participants have found the B.Ed. curriculum satisfactory to some extent but have mentioned several times the need for reform. Their responses also describe their tensions about course management. For instance, HT2 states that 'Open University has compacted their two-year program in one-year, so I don't think that they are capable of preparing teachers for secondary schools just offering sessions once in a week.' However, HT1 sheds the light in this debate from a different angle. He argues,

> *...[Most] Teachers' main target is to get an upper- salary scale. Therefore, in addition to management problems, there are huge problems in teachers' mind-set and in our education culture.*

In the same vein, TE2 claims that the whole system is fragmented, from planning to practice, from rural to urban, and from top to bottom in the management. T2 expresses that 'B.Ed. program can develop teacher skills, but there is no follow-up activity that can monitor and motivate teachers to practice achieved knowledge and skill. …The course curriculum is not adequately equipped with the modern education system; it needs to be up-dated'. In addition to this TE1 complains against the teaching-learning infrastructure and work environment in TTCs.

5.4 Infrastructure and Management Issues for Teacher Education

There are three major types of institutions that offer in-service teacher education courses. Although all these institutions follow the same curriculum, they are different from each other. Participants reflect their satisfaction with the curriculum but observe major problems in infrastructure and course management. They share their experience and views towards the three different types of institutions which are explained in the following sections separately.

5.4.1 Government TTC

According to the participants, government TTCs are comparatively reliable teacher education providers in the country, where teachers are required to attend the sessions regularly throughout the whole academic year. Besides, it has practical teaching arrangements in secondary schools for teachers for three months under the supervision of two teacher educators. Participants reply that these institutions are comparatively better than others in terms of curriculum practice, manpower, infrastructures, and teaching-learning activities. However, teacher educators complain about some limitations, such as, inadequate teaching-learning environment, load shedding during extreme hot weather, lack of safe drinking water, dirty classrooms, and unavailability of internet connectivity etc.

Furthermore, TE1 mentions that government TTCs are always very busy with conducting various short training courses of different on-going education projects. Teacher educators are very much interested in these courses as they receive extra money from them. Therefore, student teachers do not receive proper attention and guidance during their B.Ed course.

5.4.2 Bangladesh Open University (BOU)

Besides other centers, BOU offers the B.Ed course through government TTCs, where teacher educators of government TTCs teach the student teachers. Although it follows the same curriculum, BOU has its own course modules, and the program is very concise with a limited contact-hour. In this one-year program, student teachers attend sessions once in a week which is a subject of criticism by teacher educators and participants. Another controversial issue that respondents mention is, BOU does not offer any experimental teaching-learning sessions in secondary schools rather organize simulation in a small scale inside the classroom. TE1 argues, '…BOU, without its own resources or library, is running this course depending on other institutions'. Due to its inability to ensure enough contact-hour which is required to achieve the credit-hours, participants criticize this course offered by BOU. 'In most instances, teachers prefer to attend BOU courses because of this flexible nature which allows them to continue teaching in schools during this course period without education leave' (TE2, [who completed this course from BOU]).

5.4.3 Private TTCs

Private TTCs are mostly criticized by the participants for their poor infrastructure and inadequate number of employees. However, under the management of National University (NU), they follow the same curriculum. Most of the well debated issues in private TTCs is their lack of sincerity in course management. As T2 mentions,

> …Government TTCs follow the rules and regulations of the teacher education program, whereas there is no obligation in private TTCs that student teachers have to attend all sessions regularly. If you register for the course in any of these institutions, you will get a certificate for sure.

Data also reveals that participants complain against the teaching-learning system and the overall environment of private TTCs. TE1 mentions that he does not rely on private TTCs at all. As the reasons, he argues,

...I have visited some private TTCs. In terms of infrastructure and competent teacher educators, they are not even educational institutions to me. They are just another version of the coaching system [shadow education system of teacher education]. The environment for practicing and exchanging knowledge was completely absent there.

However, teacher educators of these TTCs lack proper knowledge and skills, participants mention. 'Another important thing is teacher educators cannot motivate the trainee teachers. Without motivational guidance and proper monitoring and feedback, trainee teachers do not implement their learning' (T1).

5.5 Possible changes to minimize the gaps in policy and practice

Participants note that policy should provide a complete strategic plan for the total teacher education system including roles and responsibilities of every level. Therefore, a detailed complete action plan is required for the national teacher preparation system based on the existing policies and practices.

Policymakers can involve field-level practitioners for need assessment and policy making; otherwise, it is difficult to address root-level issues from the central level. People who are involved in teacher preparation and teachers' professional development should be included in this policy process. Besides, central authority needs to look after the implementation process as well. Decreasing the gap between teachers and policymakers is essential to designing and implementing effective policies.

There is a teachers' competency framework developed by DSHE yet to implement. There are no policy guidelines for teachers' career path and action plan for teacher education. Policy needs to address these issues precisely. Otherwise, teachers do not conduct any research work and do not take initiatives for their professional development. Experts of different areas should become teacher educators.

'I don't think that the government is responsible for everything. The government will formulate policy and different institutions will ensure and supervise the implementation. And the government will monitor if everyone is playing their desired roles.'(T1)

Adequate number of skilled individuals must be recruited to monitor and supervise policy enactment and the teacher education programs. This monitoring process can also be aided by modern technology, e.g., online monitoring dashboard, education management information system etc. Therefore, the government needs to allocate a sufficient budget and human resources in DSHE for monitoring the institutions for teacher education. Moreover, all teacher education institutes should work collaboratively with neighbor universities and schools for continuous research and development of the teacher education programs.

A central authority should be responsible solely for total teacher education management of the country. The DSHE initiated discussion regarding the Teacher Education Council for Bangladesh, but no notable progress has been seen yet. Besides, a revision of the appointment system of the TTC Principals to prioritize individuals who are skilled, competent, experienced, and knowledgeable, is necessary. At the same time, TTCs should have competent teacher

educators and robust infrastructures. Every TTC must have a research cell to promote a confluence of local and global knowledge and scholarship.

6. Discussion

6.1 Teacher Education in Bangladesh: Policy Perspective

A significant number of research evidence articulates that teacher education develops teachers' abilities to observe teaching from learners' perspective which in turn makes them effective teachers to the students and they become more likely to stay in teaching (Darling-Hammond, 2000, 2006; Cochran-Smith *et al.*, 2013). Therefore, during the last 20 years, teachers' supply and teachers' quality have become significant policy issues across the world (Furlong *et al.*, 2009). However, the results highlight that Bangladeshi education policies could not explain the importance of teacher preparation properly, which is also reaffirmed by the participants. Thus, over the last four decades, a proper teacher education system has not been developed in Bangladesh (Rashid and Ritu, 2013; Haq and Islam, 2005). Similarly, policy analysis shows that teacher education could not receive proper attention from the policymakers, though teachers were mentioned as an important lever for change in education (MOE, 2010; 2016). Participants explained the issue because of the existing inconsistency between policy texts and policy practice. The government of Bangladesh pays much attention to policy formulation, but not to policy implementation as Rizvi and Lingard (2009) explain that sometimes governments develop *symbolic policy* rather than *material policy*, where political responses are reflected significantly in the policies with little or no commitment to implementation.

Further, policies represent the government's concern for teacher development in the policies as an approach to promote teacher 'training' rather than education, whereas only government TTCs offer different types of professional development trainings for the secondary school teachers funded by different education development projects (e.g., TQISEP, SESIP etc.). Participants in their interviews regret that teacher education in Bangladesh has not received proper policy attention from the government, which is completely different from many European and American countries (Bartell, 2001; Darling-Hammond, 2000, 2006; Cochran-Smith *et al.*, 2013). Even India, the neighbor country of Bangladesh, has increasingly given attention to its teacher development system (Misra, 2015).

The recent education policy of Bangladesh criticizes the existing teacher education system for its traditional curriculum, teaching-learning system, and assessment process (MOE, 2010). This is consistent with a significant number of studies that, all over the world, teaching and teacher education have been criticized by the policymakers and different stakeholders (see Furlong *et al.*, 2009). For instance, according to Darling-Hammond (2000), 'Over the past decade, public dissatisfaction with schools has included dissatisfaction with teacher education. Education schools have been variously criticized as ineffective in preparing teachers for their work, unresponsive to new demands, remote from practice, and barriers to the recruitment of bright college students into teaching' (p. 166). However, the education policy fails to explain

necessary steps to overcome the inconsistencies in Bangladeshi teacher education system (TE1, TE2).

Respondents mentioned inadequate infrastructure, and lack of monitoring and supervision are two major impediments for the teacher education development in the country, which are rarely mentioned in the policy. This is also confirmed by BANBEIS (2009) that these two factors are cause and effect of each other. Besides, these two components increasingly contribute to the fragmentation of the system, where there is a huge quality gap in private TTCs compared to the government TTCs (BANBEIS, 2009; Rashid and Ritu, 2013). However, policy has failed to notice the importance of amalgamation and networking of these institutions for developing a unified teacher education system in the country, which was done by developed countries (e.g., Australia, Finland) (Tatto, 2015).

Findings show that before joining teaching in secondary schools' participants attend the teacher registration exam organized by the Non-government Teacher Recruitment and Certification Authority (MOE, 2010). Therefore, one teacher argued that why not the government set a pre-service teacher education degree as a prerequisite for this teacher registration exam (T1). Conversely TE1 argues that the teaching profession is not still popular among the people, therefore if we set more and more requirements for teachers that may create teacher vacancies in the whole education system. However, Darling-Hammond (2000, 2006) argues that teachers who have had more preparation for teaching are more confident and successful in teaching in schools; therefore, teachers need to attend the teacher preparation program before they join teaching. It also encourages them to join and remain in teaching (Bartell, 2001; Cochran-Smith *et al.*, 2013).

6.2 Gaps between policies and practice

Current policies continue to fail to address the discrepancies in the teacher education system resulting in a substandard quality of average teachers. These limitations are: inadequate infrastructure, lack of monitoring and evaluation, quality among teacher education institutions, lack of skilled staff members, absence of national strategic plan and extensive research work.

As the results suggest, policies are responding to the significance of teacher education very slowly and with a lot of ambiguity. Respondents claimed that policies could not provide any complete framework or any strategic plan for teacher education which is considered hugely influential in the developed countries (Furlong *et al.*, 2009). In recent years, many other countries, in Bangladesh also, 'policymakers and politicians repeatedly reiterated that teacher education is broken and needs to be fixed' (Cochran-Smith *et al.*, 2013), but the way of fixing the system is not clearly described in the policies of Bangladesh (TE2).

According to Cochran-Smith *et al.* (2013, p. 7), "multiple teacher education reform policies are being proposed, piloted, or debated by various stakeholders and policymakers" globally, which remain largely overlooked by Bangladeshi policymakers who lack adequate knowledge of teacher education policies and process. Respondents of this study also claimed that the existing teacher education programs of Bangladesh failed to draw policymakers' attention to research, and data driven teacher education policy issues. Therefore, teachers and

teacher educators of Bangladesh are not eager to conduct research and collect evidence from successful teacher education programs in other countries. In contrast to the participants, which is also consistent with other literature, extensive research works help developing knowledge base for teacher education policy, identifying strategies for professional development of teacher educators, designing quality teacher education programs, and reforming the curriculum (Tatto, 2015; Menter and Hulme, 2008).

Despite following the same curriculum, findings highlight the varying performance and quality deficiency among various teacher education providers (e.g., Private Universities, Public Universities, TTCs, BOU). The monitoring and supervision system lacks competent staff; therefore, the situation remains unchanged over the years. Participants claimed inadequate infrastructure is the basic constraint for private TTCs, which is consistent with BANBEIS (2009), but policies paid no attention to this.

Additionally, the teacher educators point to the negligence of private TTCs and BOU to ensure coherence between practicum and fieldwork for teacher preparation, and which also remains unaddressed by policies. Furlong *et al.* (2009) argue that 'curriculum of teacher education- expressed as a set of standards to be achieved by all trainees wherever they trained. In accordance, a growing body of research confirms this belief that trainee-teachers who participate in fieldwork with course work better understand theory and support students' learning (Darling-Hammond, 2006).

In recent years, many European countries have seen a distinctive move of initial teacher education into the university sector (Menter and Hulme, 2008), which is similar for Bangladesh. Four public universities and 6 private universities are working on teacher professional development (BANBEIS, 2014). However, the recent education policy did not observe this move as it mentioned the name of Dhaka University only, whereas there are nine other universities working in teacher education (MOE, 2010).

Policies show that the existing teacher development system of Bangladesh has been suffering from the traditional teaching learning system led by rote learning and certificate based education (MOE, 2010). Researchers and experts argued that well prepared quality teachers could overcome these challenges. However, participants claim that policies failed to realize the significance of the teacher education program in Bangladesh. Therefore, the system allows recruiting teachers without initial teacher education, who later do not feel the need to attend teacher education programs until they cannot avoid it anymore. In addition to their lack of interest, lack of post-program assessment and monitoring causes the trainee-teachers to prioritize mere certification over learning and self-development.

On the other hand, Bangladesh addressed teacher education and teacher's professional development in its policy and tried to develop a quality teacher education system but came up with no specific strategic plan rather some instructions. In short, keeping the implementation issue aside, the policy texts could not address all the issues being practiced at the field level.

6.3 Future Implications: Bridging the gaps between policy and practice

Notably, results from this study highlight the gaps between policy and practice in teacher education of Bangladesh that requires distinctive changes, reforms, and improvements in teacher education to bridge the gaps. Assessment of present policies and experience of the practitioners provide implications for the development of teacher education in Bangladesh. Besides, experience from other countries continuously working for the betterment of their teacher education could offer some insights to contextualize the lessons for Bangladesh.

Bearing suggested implications of the participants into mind and investigating the different features contributed to the preparation of high quality teachers internationally (Bartell, 2001; Tatto, 2015; Darling-Hammond, 2000, 2006; Cochran-Smith et al, 2013; Whelan, 2009; Misra, 2015), evidence shows that for developing successful teacher education systems Bangladesh needs to pay significant policy attention to seven areas: strategic plan for national teacher education system, standards for teachers and teacher educators, designing quality teacher education programs, better working environment and positive institutional culture, effective monitoring and supervision strategy for quality assurance, collaboration between schools and higher education institutions, and participatory policy process and policy implementation.

6.3.1 Strategic plan for national teacher education system

The findings of the study recommend that a complete strategic plan (participants used different terms as 'an action plan', 'master-plan', 'systematic plan', 'complete plan') is required for total teacher education system including detailed elucidation of roles and responsibilities of every institution i.e., NU, DSHE, TTCs, BOU and universities in Bangladesh. However, as it is found from the literature, along with the plan, there is a separate policy for teachers and teacher education in the developed countries. Teacher educators suggested establishing a separate independent institution or education university that would monitor the overall teacher education system, conduct research with other local and international universities and become an accreditation authority in the country. Bangladesh can follow the footsteps of Singapore or Finland in this regard (Misra, 2015; Furlong *et al.*, 2009).

6.3.2 Standards for teachers and teacher educators

Respondents of this study mentioned that teachers and teacher educators lack skills and professionalism. Compared to the international standard, which is repeatedly mentioned in the recent education policy, Bangladesh needs to set its national standards for teachers and teacher educators to enhance the professionalization of teaching and teacher education (Cochran-Smith *et al.*, 2013). These standards will be maintained in the teacher registration system of NTRCA that ensures a gate-keeping function for entry into teaching similar to Scotland (Misra, 2015). Education policies need to clarify the issue of establishing an accreditation authority similar to the Council for the Accreditation of Educator Preparation in the USA, and the National College for Teaching and Leadership in England that can ask programs to demonstrate that their graduates are qualified to teach according to the standards (Tatto, 2015). The desire to professionalize teaching and teacher education by developing valid and reliable measures of teacher performance is shared by many teacher educators and policymakers which is also mentioned by international evidence (Cochran-Smith et al, 2013).

6.3.3 Designing quality teacher education programs

To meet the standards of teachers' competency, quality teacher education programs and effective teacher management system are required. The education policy 2010 criticized the existing teacher education programs. Darling-Hammond (2006) suggests three crucial components of quality teacher education program: 'tight coherence and integration among courses and between coursework and clinical work in schools, extensive and intensely supervised clinical work integrated with course work using pedagogical linking theory and practice, and closer, proactive relationships with schools that serve diverse learners effectively and develop and model good teaching' (p.1). These criteria should be well taken care of in the policies seeking a common system of performance-based standards for teacher preparation, licensing, and certification (Cochran-Smith et al, 2013).

6.3.4 Better working environment and positive institutional culture

Participants of the study repeatedly reiterated the infrastructural issue of the teacher education institutions as a great constraint, which is consistent with BANBEIS (2009), and Rashid and Ritu (2013). Therefore, teacher educators demand a better working environment and teaching learning materials for quality teacher education. Lethargic institutional culture was another distinctive feature of the existing traditional teacher education system of Bangladesh (USAID, 2002; MOE, 2010), which required proper policy attention to reform this institutional culture.

6.3.5 Effective monitoring and supervision strategy for quality assurance

Results show that Bangladesh has failed to develop a quality teacher education system because of inadequate monitoring and supervision system and because of disparity among multiple supervising authorities. Although it is mentioned in the education policy that teacher performance will be assessed by external officials, but the headteachers mentioned that they do the assessment by themselves just to prepare a report for the education office. Findings from the interviews report that DSHE and NU suggest that the two monitoring authorities are understaffed. Therefore, lack of accountability and standardization of expectations across programs deteriorate the quality assurance in the teacher education system (Cochran-Smith *et al.*, 2013). Education policy should pay significant attention to these issues.

6.3.6 Collaboration between schools and higher education institutions (HEIs)

Findings from international research provide distinctive evidence for developing collaboration between schools and higher education institutions of teacher education. Although policies do not have any clause on such collaboration, results from this study are consistent with these findings, partnership with schools is a most distinctive feature of teacher education, where HEIs can use these schools as laboratories and can conduct research work with schools that develop the knowledge base of teacher education policy providing evidence (Darling-Hammond, 2006; Furlong *et al.*, 2009; Tatto, 2015). In addition to this, well-supported partnerships between schools and universities help attain improvement and raise attainment at school level also (Misra, 2015).

6.3.7 Policy making process and policy implementation

Findings from other studies, which are comparable to the results of this study also, report that policies are produced and influenced by advocacy and professional groups with particular agendas, and also interpreted, resisted, remade, and recast by practitioners working in particular local settings and/or collectively (Cochran-Smith *et al.*, 2013). Public participation in the policy process (Menter and Hulme, 2008) plays a significant role to incorporate society's expectations. Therefore, in order to ensure the policy making process participatory, policymakers need to involve teachers, teacher educators and education experts to get the real scenario of grass root levels employing multiple strategies. As Mason (2014) argues that 'This requires teachers and teacher educators to collaboratively reflect on their own experiences and the experiences of others. In short, teachers can be an important contributor to teacher education reforms' (Mason, 2014, p.2). In addition, purposeful coordination within and across levels of the monitoring and supervision is required, where every decision-making body works collectively to make a central implementation-friendly teacher education policy. Policies in texts should be translated and implemented by practitioners, and to do so proper financial support is required instead of just placing commitments from the state (Furlon *et al.*, 2009; Hopkins *et al.*, 1994; Rizvi and Lingard, 2009, Tatto, 2015, Misra, 2015).

In sum, policy plays a key role in developing a teacher education system as well as in helping teachers to ensure effective teaching-learning in schools (OECD, 2005). Therefore, policy has to 'make evident that teacher quality requires high levels of academic and practical preparation, and systems to ensure that quality is sustained over the long term' (Tatto, 2015, p.186). Strong knowledge base for policy making needs to be developed through extensive research studies with the HEIs, lessons from previous policies must be incorporated in the policies regardless of political intentions, roles and responsibilities of different policy players should be clarified in the policies, and the government should monitor policy implementation. 'Some might criticize that there is too much bureaucracy, too much intervention and control from the center in the policy' (Ball, 2013, p.4). To mitigate this situation teachers' voice in teacher education policy needs to be encouraged and their views of teacher education should be actively pursued on a regular basis (Mason, 2014).

7. Conclusion

Despite improved access and completion rates at secondary education, Bangladesh is struggling to ensure quality teachers for all the children. As previously argued, the teacher education system in the country has witnessed an unplanned development. The quality of teacher education is negatively affected by the poor infrastructure and inadequate management. As there is no teacher accreditation authority for maintaining teacher standards, secondary school teachers undertake the B.Ed. course just to fulfill the requirement of the current education policy. Therefore, the teacher education system needs policy attention, formation, and reformation, in areas i.e., adequate infrastructure, necessary equipment, materials and labs, and well-paid competent teacher educators.

In short, it can be concluded that the educational policies of recent years in Bangladesh emphasized teacher professional development through teacher-training without discussing the

issues of quality teacher preparation and recruitment, where the teacher preparation process is far below the standard. Therefore, Bangladesh should examine the strengths and weaknesses of its teacher education system as well as the policies to establish a strong, collaborative system of teacher development including all teacher education providers in the country.

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Student-Centered Education Curriculum: An Assessment of Policy and Actions on Secondary School Education

Yasmin Sultana[1]

Abstract

This research project aims to investigate the practice of student centered education in Bangladesh. This paper focuses on secondary school education practices followed by education curriculum 2021. The objectives of the study are to find out the challenges in practicing the curriculum and to provide insights from some countries which have successful stories for student centered education. The methodology employed a mixed research approach, integrating both primary and secondary data sources. The study employed a combination of random and convenience sampling methods to select schools and teachers, ensuring representation and practicality in data collection. The findings shed light on the multifaceted challenges encountered in implementing student-centered education in Bangladesh. Though there are some success stories in providing ICT resources in secondary schools, there are barriers in policy and action level. Large class size and time constraints hinder the effective delivery of learner-centered instruction, forcing educators to prioritize content coverage over personalized teaching methods. Furthermore, traditional beliefs among teachers regarding education philosophies and disciplinary approaches pose significant barriers. The research also highlights a notable disparity in teachers' perspectives, with some advocating for student empowerment and active learning, while others adhere to more authoritarian teaching methods. Even the study found low integration of teachers with technologies related tasks. The second objective of the research examines the reflections and learning from countries practicing student centered education policies. Notably, countries such as Malaysia, Singapore, and Kenya have initiated comprehensive education reforms to align with their respective visions of technological advancement and economic development.

Key words: Student-Centered Education, Education Curriculum, Secondary Schools, Challenges, Bangladesh

Introduction

Bangladesh aims to move towards a developed country. To do so, there is need of technologically advanced and critically thinking workforce prepared to compete in the 21st century's global economy.

Also, Bangladesh's philosophy of education need developing an inclusive and integrated learning system to produce capable individuals (WEF, 2023). Therefore, it is necessary to evaluate the education policy and actions to ensure that they align with the future need of Bangladesh.

[1] Lecturer, Department of Sociology, Begum Rokeya University, Rangpur. Email: sultana@brur.ac.bd

Recently Bangladesh has initiated strategies for changing traditional education practices (Cabinet Division, 2022). The strategies focus on student centered learning and use of technology in learning to cope up in the era of Fourth Industrial Revolution. To reduce the mismatch between the educational curriculum and the demand of the job market in 4iR, it is clearly indicated in the national education curriculum 2021 that there will be increasing use of technology in every sector of Bangladesh as evidence shows that technology advanced society is a global movement (Rochman et al., 2020). Around the world, governments have felt using Information and Communication Technologies (ICTs) (Phang & Kankanhalli, 2008). Particularly, technology induced education initiatives are in practice by different countries such as Malaysia, Singapore, South Korea, Finland, UAE, Arab Countries and etc. (Demir, 2021). From the above discussion, three issues are important: Bangladesh has an existing education policy and also introduced a new student centered education curriculum in Secondary and Higher Secondary level beginning with the academic year 2023; there are initiatives for changes in education policy and actions in Bangladesh; and, many countries are already in practice of student centered education focusing on educational ICTs in teaching-learning methods. There are different opinions on to what extent the new curriculum can be effective by replacing the previous one. Focusing on these issues, this research aims to assess the implementation of national education curriculum 2021 with facts and evidences. The objectives of the study are to find out challenges related to implementing education curriculum 2021, from the perspective of secondary school teachers and to shed light on the best practices in selected countries where student-centered education policies have been implemented. The findings of this study will provide insights into the strengths and weaknesses of the education system in Bangladesh and recommend strategies to improve it, which can ultimately contribute to building a developed society.

Review of Literature

Education Curriculum 2021: The key target of this curriculum lies in advancement of knowledge, skill, technology and preparation for fourth industrial revolution. To solve current problems sustainably and effectively, the new education curriculum 2021 aims to make global citizen. The key features of global citizen are patriotic, sensible, adaptive, humane, competent and positive attitude. This kind of citizen will solve current problems sustainably and effectively. Moreover, demographic advantage will be useful.
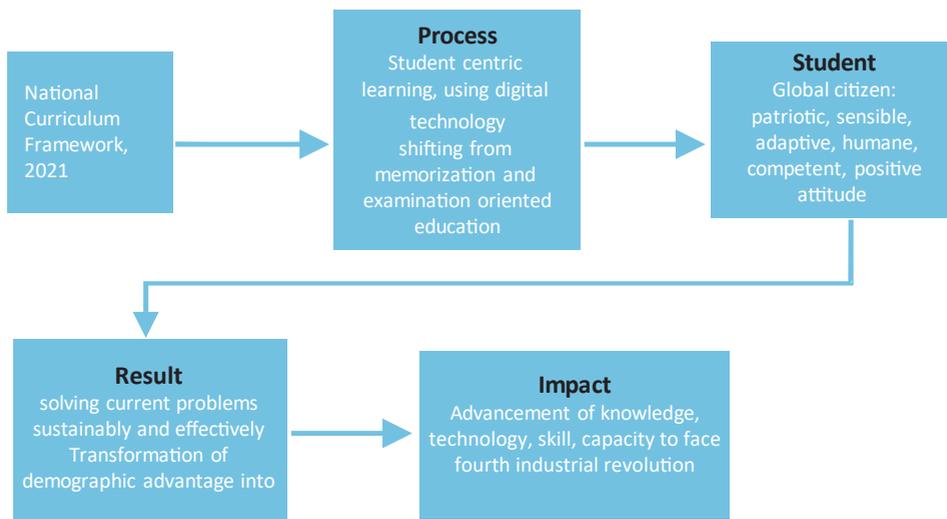
Figure 1: Key Aspect of National Curriculum 2021

In terms of educational content and resources, collaboration among different stakeholders is prioritized to ensure inclusion and personalization of learning experiences for all students. Assessment methods have shifted towards more formative and continuous assessments, providing real-time feedback to students and reducing teacher workload through personalized reports. Teacher professional development is being transformed through blended approaches, enabling teachers to have more time in the classroom and access supportive materials. Moreover, inclusive infrastructure is essential to ensure that no one is left behind in the pursuit of education. This includes access to devices, digital platforms, electricity, and high-speed broadband connectivity at affordable costs, facilitating blended education approaches.

Understanding smart education and use of technology in learning: Salem et al (2020) identified smart education as an important stage of digitalizing the educational system. It involves student-centered learning using non-formal learning opportunities, information systems, and professional communities. Smart education modernizes all educational processes, methods, and technologies used in the learning process. The term "smart" is related to technology, such as smart boards, smart screens, and smart courses. These tools are combined in the concept of "smart technologies" that are used in education.

Table 1: Understanding smart education

	key terms use for smart education
•	Effective use of communication and information technology (Demir 2021),
•	Intelligent environments by smart technologies (Zhu and He, 2012),
•	Learning in digital age (Zhu et al., 2016)
•	Fusion of effective pedagogy and technology (Demir 2021),
•	educational environment based on strong IT infrastructure and advanced social technologies (Kim et al., 2013)

Dneprovskaya (2018) argues, smart education is an approach to learning that is focused on using technology to make the learning experience more effective, efficient, and engaging. It involves the use of intelligent information systems, which can be used to provide personalized learning experiences for students. This means that the learning experience can be applied to the personal needs of each student, which can help to improve learning outcomes. In 1997, Malaysia first carried out a smart education project, Malaysian Smart School Implementation Plan (Z.-T. Zhu et al., 2016). Smart schools, which are supported by government, aim to improve the educational system in order to achieve the National Philosophy of Education and to prepare work force that meets the challenges of the 21st century. Singapore has implemented the Intelligent Nation (iN2015) Master plan since 2006, in which technology-supported education is an important part. These are few examples of smart education initiatives. Zhu & He (2012) stated that "the aim of smart education is to make intelligent environments through smart technologies, so that smart pedagogies can be applied to provide personalized learning services and empower students, and thus talents of wisdom who have better value orientation, higher thinking quality, and stronger conduct ability could be fostered "(p. 6). Zhu et al. (2016) proposed four level of abilities in smart education that students should master to meet the needs of the modern society. These abilities are comprehensive abilities, personalized expertise, basic knowledge and core skills, and collective intelligence. To make these capabilities four tier of smart pedagogies are class-based differentiated instruction, group based collaborative learning, individual based personalized learning and mass-based generative learning. WEF (2023) provides six elements accelerating education in Bangladesh.

Application of Learner Centered Education: According to (Aslan & Reigeluth, 2015) literature review, the implementation of learner-centered approaches varies depending on factors such as subject content, the intellectual development of learners, and class size. At the primary level, teachers primarily utilize strategies such as small group work, study analysis, observational learning, and writing tasks, as well as teamwork and comparison tasks. However, at the high school level, Din & Whitley (2007) observed a shift towards more challenging and thought-provoking approaches. These include critical thinking, problem-solving, stimulating learning (Chiphiko & Shawa, 2014), and peer interaction.

Digital Literacy for Student Centered Learning: Digital literacy involves any number of digital reading and writing techniques across multiple media forms. These media include words, texts, audio, motion graphics, video, visual displays, and multimodal forms (Paul et al., 2017). Digital literacy involves consuming, creating, and communicating digital products. It also includes the ability to consume texts and acquire knowledge through online reading and inquiry (Leu et al., 2013). The education curriculum 2021 of Bangladesh has also included digital literacy as core skill for students. So, a broad portfolio of digital literacy, skills, and competencies should be developed in all sectors and levels of society – from ensuring all citizens are skilled to use smart devices and computers, to creating a region of digital innovators. Bangladesh has already defined many of the key skills that will be required for the economy and jobs of the future and has an established base of computer science higher education (ICT Division 2024). From the literature review, it is clearly indicated that student centered or smart education policies and practices are strongly related to the technological adaptation of schools,

teachers and students with the teaching learning process and it focuses on student-centered learning. This study aims to contribute to explore the underlined challenges with the practices of student-centered national education curriculum.

Methodology of the Study

This study employed a mixed research methodology, combining both quantitative and qualitative approaches, to provide a comprehensive understanding of the research topic. The rationale behind using this methodology lies in its ability to capture a broader range of insights and perspectives. Quantitative methods, such as surveys and statistical analysis, were utilized to gather numerical data. On the other hand, qualitative methods, such as interviews and focus groups, provided deeper insights into the underlying reasons and experiences of the participants. This qualitative data enriched the quantitative findings by offering context and understandings of the relevant issues. By integrating both quantitative and qualitative approaches, this mixed research methodology ensured a more holistic approach that enhanced the validity and reliability of the study findings.

The study area was Rangpur district. Rangpur district encompasses a variety of socio-economic backgrounds and geographic locations, providing a rich context for understanding the challenges and opportunities associated with curriculum implementation. Furthermore, the availability of seven upazilas within the district offers a sufficient sample size for the study, allowing for adequate representation and generalizability of the findings. This district have seven upazilas: Badarganj Upazila, Gangachara Upazila, Kaunia Upazila, Mithapukur Upazila, Pirgacha Upazila, Pirganj Upazila, Rangpur Sadar Upazila, Taraganj Upazila. Among these, five upazilas were chosen randomly as the study area.

Figure 2: Study area

For the research study, a combination of simple random sampling and convenience sampling methods was employed for school and teacher selection, respectively. School Selection: Simple random sampling was used to select schools from different Upazilas. Each Upazila had a predetermined number of schools, and a subset of these schools was chosen randomly for inclusion in the study. The number of schools selected from each Upazila is as mentioned in the table No 2. This resulted in a total sample of 15 schools. Teacher Selection: Convenience sampling was employed to select teachers from the selected schools. In each chosen school, 10 teachers were selected conveniently based on availability and willingness to participate in the study. This resulted in a total sample of 150 teachers (10 teachers from each of the 15 selected schools).By using a combination of simple random sampling and convenience sampling, the research ensured representation from

different geographic areas while also facilitating practical and efficient data collection from teachers within the selected schools.

Table 2

Distribution of Selected Schools by Upazila

Upazila	Sadar	Pirganj	Taraganj	Gangachoura	Mithapukur
Total No. of High Schools	94	87	20	28	72
No. of schools selected for the study	4	4	2	2	3

The sampling method employed for collecting quantitative data aimed to achieve a balance between randomness and practicality in selecting both schools and teachers for inclusion in the study. Simple random sampling was utilized for school selection to ensure a representative sample from different Upazilas. This method helped to minimize bias and increase the generalizability of findings to the broader population of schools within each Upazila. On the other hand, convenience sampling was chosen for teacher selection due to its ease of implementation and practicality. This approach allowed researchers to efficiently gather data from willing participants within the selected schools, facilitating smoother data collection processes. While convenience sampling may introduce some degree of bias, its use was deemed appropriate given the logistical constraints and resource limitations inherent in the study. Overall, the combination of simple random sampling for school selection and convenience sampling for teacher selection helped to strike a balance between methodological rigor and practical considerations in the research design. In order to comprehensively address the research objectives, multiple methods of data collection have been devised. To explore the challenges associated with implementing the new curriculum, particularly in secondary education, self-administered questionnaire, in-depth interviews (IDIs) was conducted. Following in depth interview, this method involve engaging teachers and practitioners in one-on-one discussions to gain an understanding of their preparedness in terms of infrastructure, teaching-learning methods and the technological ecosystem.

Furthermore, focus group discussions (FGDs) was organized to gather collective perspectives on the challenges and opportunities related to the implementation of the new curriculum. These discussions will involve teachers, and education administrators, providing a platform for open dialogue and brainstorming sessions to identify key challenges faced by various stakeholders and explore potential solutions.

Table 3:

Data Collection Method

Objectives	What	How
1. To find out challenges in implementing new curriculum, from the perspective of secondary school teachers.	Preparedness of the teachers, Challenges in terms of infrastructure, teachinglearning method and technological ecosystem	Self-administered questionnaire, In-depth interviews (IDIs) teachers and practitioners. Hold FGDs with teachers, students, education administrators
2. To shed light on the best practices in selected countries where student centered education policies have been implemented.	Key practices, what kind of challenges they faced and how did they overcome	Comparing countries applying smart education based on secondary sources and IDIs

For the quantitative data analysis, various statistical methods were employed to analyze the collected data. Percentages were calculated to represent the distribution of responses and to provide a clear understanding of the data in terms of proportions. This facilitated easy comparison between different categories within the data set. Additionally, bar charts were utilized to visually represent the data. Bar charts were effective in identifying ICT resource trends within the data. Furthermore, Likert scale data were analyzed using descriptive statistics to assess the overall sentiment or perception of the participants. This comprehensive approach to quantitative data analysis provided valuable insights into the research findings. For qualitative data analysis, the study used a method called thematic analysis to understand the data collected. Thematic analysis helps to find common patterns and differences in the information gathered. To conduct thematic analysis, the information collected from interviews and FGD notes was transcribed and organized. From FGDs, the research team translated the audio recordings from Bangla to English. Then each transcript was read several times to identify significant statements. Next, the thematic meaning units were taken from these statements and analyzed accordingly. Using necessary raw quotes of the respondents were also a part of data analysis.

In terms of secondary data analysis, data integration and interpretation was in focus. In terms of comparison among data, descriptive data analysis was followed besides interpretative data. Despite the fact that the institution lacked an ethical review board, the author ensured that the ethical criteria outlined in the Helsinki Declaration were followed. The responders' names were concealed. Their privacy and any sensitive information were likewise safeguarded during the data collection and analysis stages. Participants provided informed consent. Participants had the right to withdraw their statements and end the interview at any moment. The interview protocol was constructed using the COREQ checklist.

Conceptual Framework

The framework is evolved from the analysis of UNESCO based on the guidance on implementation of the national smart education framework (UNESCO IITE, 2022). Ultimately,

through promoting student centered learning, the goal of smart education is to cultivate human wisdom and promote educational equity across different regions and schools. Smart education also focuses on using technology support in learning. Hence using this framework can be useful in understanding the effective conditions of student centered education in Bangladesh. Smart education refers to educational approaches implemented by schools, regions, or governments to improve learning experiences, modify learning content, and increase teaching efficiency. It has three components: a smart learning environment, an innovative instructional mode, and a modern educational system. It uses cutting-edge science and technology to provide a wide range of assistance and on-demand services to students, instructors, and parents. Participant data and learning processes are collected and used to improve the quality and fairness of education. Smart education is distinguished by its sensitivity to the learning environment, individualized learning content, and respectful engagement within the educational system.

It prioritizes creating engaging and effective learning experiences for students while respecting their individuality and diversity.
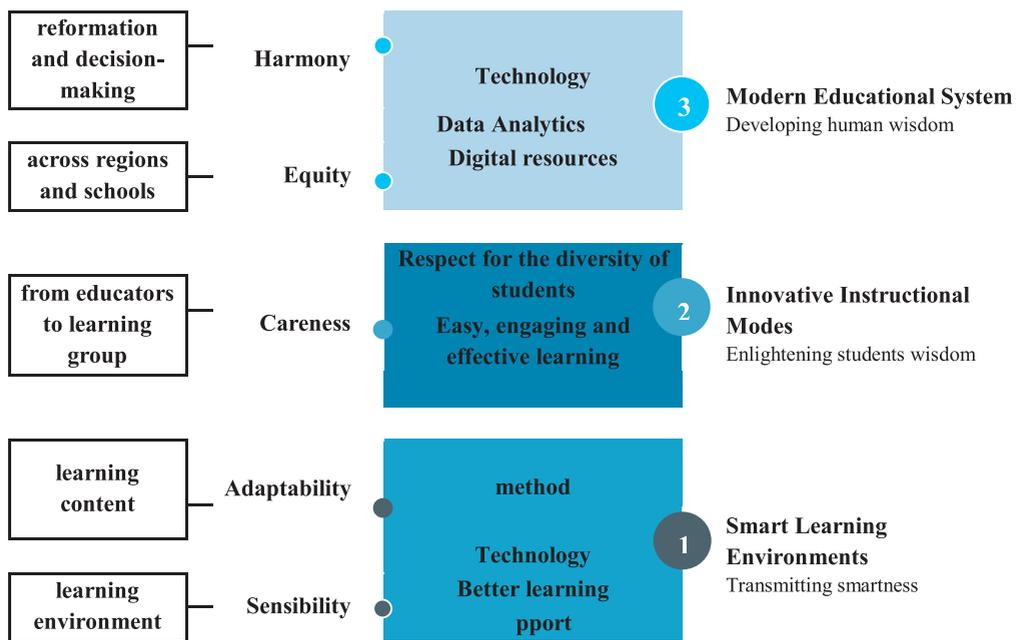

Figure 3: Realms of Smart Education

For this study, this framework will be used from two perspectives: use of information and communication technologies to support for student-centered learning; and practices of sensibility, adaptability, careness, equity and harmony among schools beyond the supports of ICTs.
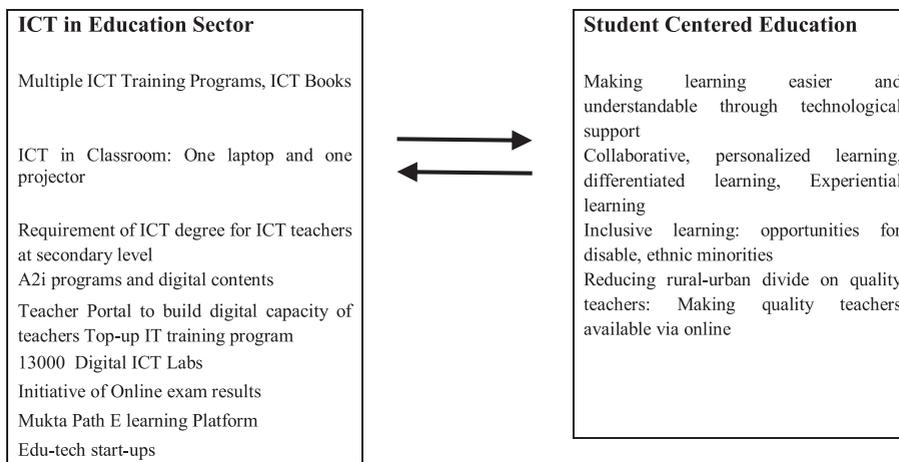
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Data Analysis and Findings

ICT Resources in Secondary School Education and challenges:

Insights from Bangladesh's ICT resources initiatives can be a good part for understanding current education in Bangladesh.

Table 4:

Connecting ICT in Education and Student Centered Education

ICT in Education Sector	Student Centered Education
Multiple ICT Training Programs, ICT Books	Making learning easier and understandable through technological support
ICT in Classroom: One laptop and one projector	Collaborative, personalized learning, differentiated learning, Experiential learning
Requirement of ICT degree for ICT teachers at secondary level	Inclusive learning: opportunities for disable, ethnic minorities
A2i programs and digital contents	Reducing rural-urban divide on quality teachers: Making quality teachers available via online
Teacher Portal to build digital capacity of teachers Top-up IT training program	
13000 Digital ICT Labs	
Initiative of Online exam results	
Mukta Path E learning Platform	
Edu-tech start-ups	

Source: (ICT Division, 2023, 2024; Ministry of Education, 2019)

The data presented in the figure 4 highlights the integration of Information and Communication Technology (ICT) resources in secondary high schools in Bangladesh over the years 2020, 2021, and 2022. This integration aligns with a tech-positive mindset among citizens. 'Institutions Having Electricity Connection' indicates the percentage of schools equipped with electricity. Over the years, there has been a steady increase, with 93.96% in 2020, rising to 98.45% in 2022. This is crucial for powering electronic devices and facilitating digital learning environments. 'Institutions Having Multimedia' refers to schools equipped with multimedia resources such as projectors and audiovisual equipment. Although there was a slight decrease from 78.97% in 2020 to 78.39% in 2022, the majority of schools still have access to multimedia tools, which can enhance interactive learning experiences. 'Schools Having Computer Facility' represents the percentage of schools with computer facilities available for educational use. The data shows a consistent presence of computer facilities, with 87.34% in 2020, increasing to 88.30% in 2022. Access to computers is essential for digital literacy and integrating technology into classroom activities. 'Institutions Having ICT (Computer) Teacher' this indicates the percentage of schools with dedicated ICT teachers. Although data is not available for previous years, it shows a significant presence of ICT teachers in 2022, with 72.28% of schools having specialized personnel to support technology integration in education. 'Institutions Having Internet Facility' shows the percentage of schools with internet access. The figures demonstrate consistent availability of internet facilities, with

82.50% in 2020, increasing to 83.12% in 2022. Internet access is crucial for research, online collaboration, and accessing digital educational resources.
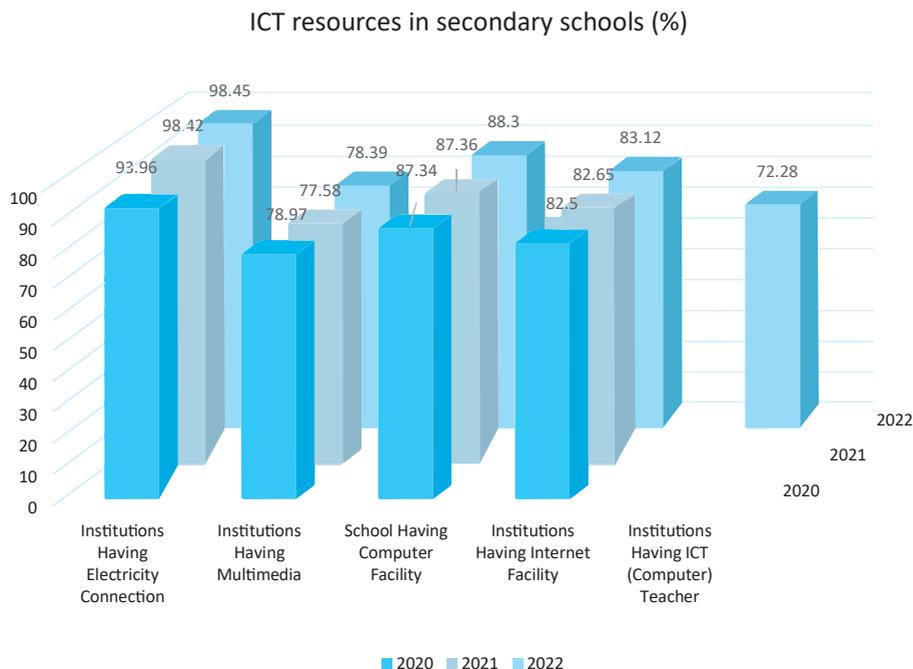
ICT resources in secondary schools (%)

Figure 4: Integration of ICT Resources in Secondary High Schools in Bangladesh (Source: BANBEIS, 2022)

According to the ICT Division, 1.8 Lac teachers are trained on multimedia content development and 6,000 are trained on ICT troubleshooting and 1,000 trained on advanced ICT. Though such trainings add values, there are many issues of concern that need to be addressed while initiating the learning for future Bangladesh. But those initiatives that are areas of concern found during Digital Bangladesh era need to be addressed (Table 5).

Table 5:

Key concerned issues about the ICT initiatives in education

Key areas of concern regarding the initiatives taken by the government	ICT enabled teaching learning environment
	No Requirement of ICT degree for ICT teachers at primary level
	Existing ICT facilities are at times not adequately maintained
	Limited number of master trainers on schools' existing ICT facilities.
	Training and reskilling efforts disjointed and quality assurance low
	No Requirement of ICT degree for ICT teachers at primary level

Source: (ICT Division, 2023, 2024; Ministry of Education, 2019)

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Challenges in implementing student-centered education curriculum

Challenges of Large Class Size and Time Management:

This research explores the challenges faced in implementing learner-centered education and reveals insights regarding class size. A teacher's response can be quoted here to more further:

> *"In our school, it is mostly around 65-70 students per class. By this big class size, it is very difficult to pay attention to each students within the class time. It becomes difficult, many times impossible, to identify who has failed to grasp what I am trying to make the student learn. It would be possible better with half of the class size, meaning 25-30 students."*

The respondent's statement underscored the immense difficulty posed by large class sizes, averaging around 65-70 students per class. Here are few other insights based on this statement: Firstly, limited attention to individual students can be mentioned. With such large class sizes, it becomes incredibly challenging for teachers to pay adequate attention to each student within the allotted class time. Secondly, identification of learning gaps is reflected from the statement. One of the fundamental aspects of effective teaching is identifying students who are struggling to grasp the concepts being taught. However, in classrooms with 65-70 students, this task becomes difficult. Another statement of a teacher in physics (January19, Pairaband, Rangpur) can be stated.

> *"Attempting to engage with so many students in a single class feels like shouting into a crowded room where both my voice and my students' voices are lost in the cacophony. It's difficult task to identify who's struggling amidst the noise during team works. Small class size would provide the breathing space needed to cultivate meaningful connections, foster deeper understanding, and truly implementing the principles of learner-centered education."*

> *"I usually stand in the middle of the class because it's difficult for all students to hear me otherwise. But this means that some students end up behind me, and I have to teach from the middle, far away from the chalkboard. Every time I need to write or explain something, I have to walk back and forth to the board, which takes up a lot of time and is tiring."*

Teachers said that not having enough time on the schedule makes it hard to teach in a way that focuses on what students need to learn. They said that there's a lot of stuff they have to teach in a short amount of time, so they have to choose, sometime, teaching methods that cover a lot of material quickly. One quote from teacher can be mentioned (3 February, 2024, Rangpur):

> *"The hardest part of using learner-centered teaching is not having enough time to plan and do activities in class."*

Challenges of Teachers' Traditional Belief about Learner Centered Education:

This study used few belief dimensions of teachers to explore their perception about new Learner Centered education. The dimensions are knowledge as transmitted vs. constructed, purpose of material success vs. social justice, hierarchical vs. democratic relationships,

teachers duty: completing task vs. ensuring outcomes, valuing of tradition vs. change. The statements were used by Brinkmann (2019) in his study (Table 6).

Table 6:

Belief dimensions of teachers about Learner Centered Education

Belief Dimensions	Beliefs of Low LCE teacher	Belief of high LCE teacher
1. Knowledge as transmitted vs. constructed	Knowledge must be transmitted from teacher/ textbook	Children construct knowledge through active exploration
2. Purpose of education: material success vs. social justice	Doing well in exams to get a lucrative, high-status job	Developing values and skills thatcontribute to a more ethical, just society
3. Hierarchical vs. democratic relationships	Children should be controlled through fear and discipline	Teacher-student relationship should be democratic and friendly
4. Teachers' duty: completing task vs. ensuring outcomes	Teacher's duty is to 'complete the syllabus'–lack of learning is the student's fault	Teacher feels personally responsible for ensuring all students learn
5. Low vs. high professional commitment	Low sense of commitment, accountability or work ethic	High professionalism, with teaching seen as a calling
6. Valuing of tradition vs. change	Preference for sticking to tradition	Believe that we can and should work

Source: Brinkmann (2019)

In exploring teachers' positive belief towards learner centered education, by using likert scale, the statements reflecting this dimension were examined. Figure shows that in response to the statement of 'Teacher-student relationship should be friendly' 57.14% respondents agreed and 28.57% strongly agreed. It indicates that a significant majority of respondents agreed or strongly agreed that fostering a democratic and friendly relationship between teachers and students is important. This suggests a recognition among teachers of the value of creating an inclusive and supportive classroom environment where students feel comfortable expressing themselves and actively participating in their own learning process. In response to the statement 'Children construct knowledge through active exploration' 57.14 % strongly agreed and 38.10% agreed. It indicates that a substantial number of teachers strongly agreed or agreed with the idea that children construct knowledge through active exploration. This aligns with the principles of learner-centered education, which emphasizes hands-on, experiential learning where students are actively engaged in investigating and discovering concepts themselves rather than passively receiving information from teachers.

However, the findings also revealed a notable discrepancy regarding teachers' sense of personal responsibility for ensuring all students learn. The majority of respondents disagreed with this statement, indicating that many teachers may not feel entirely accountable for the

academic progress of every student in their classroom. This could stem from various factors such as systemic challenges, limited resources, or differing beliefs about the role of educators in student learning outcomes. In response to the statement 'Teacher realizes responsible personally for ensuring all students' learning', 61.90% disagreed with the statement and only 4.75% strongly agreed and 9.52% agreed with the statement. To delve deeper into these findings, the research employed in-depth interviews to explore the perceptions and challenges that influenced some teachers to disagree with the notion of personal responsibility for student learning. These interviews likely provided valuable insights into the complexities and nuances of teachers' beliefs and experiences within the context of learner-centered education.
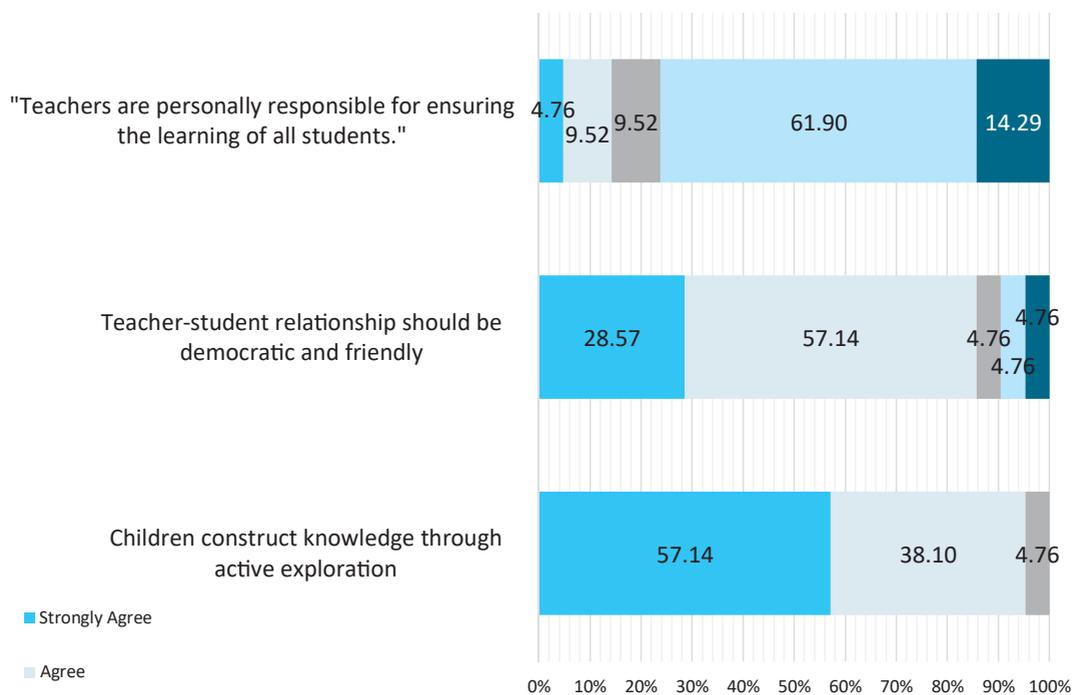
Mapping Teachers' Positive belief towards LCE

Figure 5: Teachers' Perspectives on Learner-Centered Education (The statements are directly used from Brinkmann (2019).)

In exploring teachers' negative or less belief towards learner centered education, by using likert scale, the statements reflecting this dimension were examined. Firstly, a significant portion of respondents agreed or strongly agreed that knowledge should primarily be transmitted from the teacher or textbook. Figure shows that in response to the statement of 'Knowledge must be transmitted from teacher/ textbook' 42.86% respondents agreed and 38.10% strongly agreed, 9.52% disagreed. This indicates a preference for traditional, teacher-centered methods of instruction where information is imparted to students rather than facilitating active learning and exploration.

Similarly, a concerning number of teachers agreed or strongly agreed with the idea of controlling children through fear and discipline. In response to the statement 'Children should

be controlled through fear and discipline'23.81% strongly agreed and 33.33% agreed and 38.10% disagreed. This suggests a belief in authoritarian teaching practices that prioritize obedience and compliance over fostering a supportive and nurturing learning environment.

Furthermore, a considerable percentage of respondents disagreed with the notion that a teacher's duty is to complete the syllabus contents. In response to the statement 'Teacher's duty is to 'complete the syllabus'–lack of learning is the student's fault ', 42.86% strongly disagree, 47.62% disagreed with the statement and only 4.76% strongly agreed and 6.76% agreed with the statement. This indicates a recognition among some teachers that blaming students for their learning difficulties is not conducive to effective teaching and learning. Overall, the findings highlight the existence of varying perspectives among teachers regarding the principles of learner-centered education. While some teachers may hold beliefs aligned with traditional teaching methods and disciplinary approaches, others may advocate for more student-centered, inclusive, and supportive approaches to education. Understanding these differing beliefs is crucial for addressing the challenges and promoting effective implementation of learner-centered practices in the classroom.
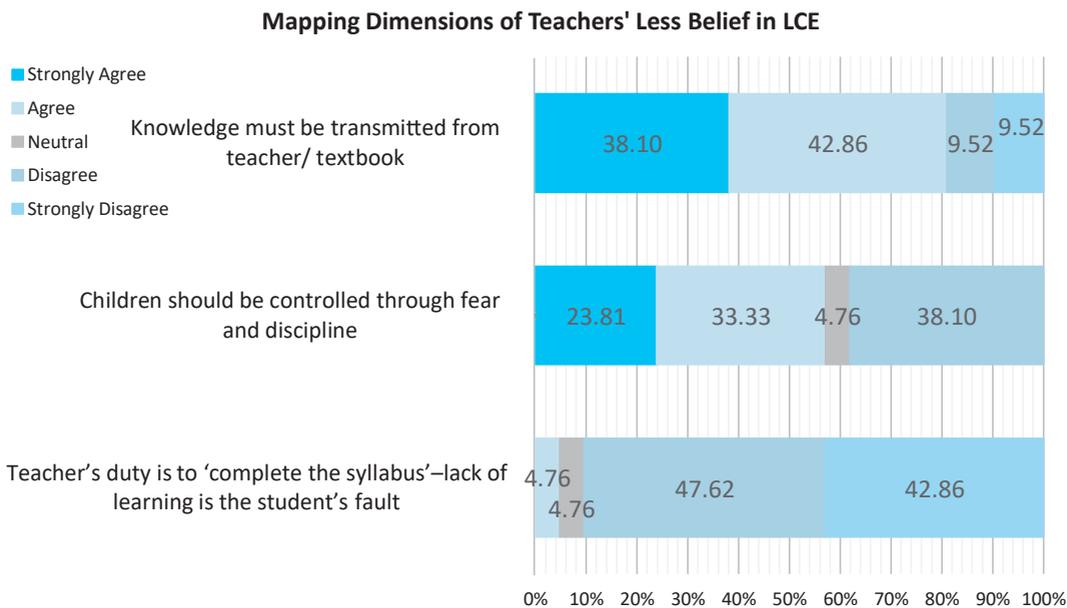
Mapping Dimensions of Teachers' Less Belief in LCE

Figure 6: Teachers' Less Supportive Beliefs towards Learner-Centered Education: Likert Scale Responses. (The statements are directly used from Brinkmann (2019).)

Proficiency Levels and Access of Teachers to Digital Literacy

Proficiency levels of teachers across different computer and internet-related tasks: The data provided illustrates the proficiency levels of teachers across different computer and internet-related tasks (Figure 7). These tasks include web browsing, basic computer operations, multimedia usage, and PowerPoint skills, downloading software, attaching audio and video files online, and utilizing the 'Shikhak Batayon' platform. Looking closely, we see a variety of skill levels among teachers. For instance, when it comes to web browsing, a significant portion

(44.67%) falls under the moderately skilled category, with only 18% considered skilled. Conversely, in tasks like attaching audio and video files online, a large majority (93.33%) are categorized as not skilled.

Moving on to basic computer operations, only 12.67% of teachers are deemed skilled. A majority, 65.33%, are not skilled in this area, indicating a significant gap in fundamental computer literacy among educators. Similarly, in using multimedia tools, a mere 14.67% exhibit proficiency, while 67.33% lack the requisite skills. Regarding PowerPoint usage, the data shows a stark deficiency, with only 8.67% falling into the skilled category. This suggests that a large majority of teachers may require additional support in creating presentations effectively.
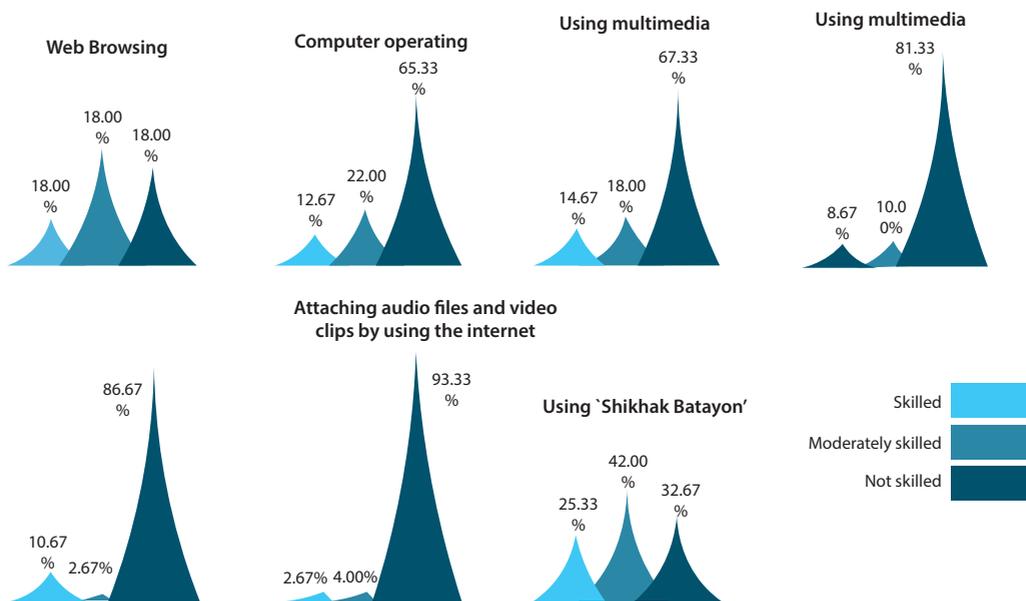

Figure 7: Proficiency level of teachers in ICT related tasks

When it comes to downloading necessary software, a mere 10.67% of teachers are skilled, while 86.67% are not skilled, highlighting a significant challenge in accessing digital resources. Attaching audio files and video clips online also poses difficulties for the majority of teachers, with only 2.67% considered skilled and 93.33% not skilled in this task. Finally, in utilizing the 'Shikhak Batayon' platform, 25.33% of teachers are proficient, while 32.67% are not skilled, suggesting a need for further training to effectively utilize this educational platform.

Box 1:
Teachers' response on questions reflecting digitally literate

Question from the survey	Percentage of responses
Do you consider yourself to be comfortable with various kinds of technology?	
Yes	8.67%
No	91.33%
Where do you generally get your main course information?	
Textbooks	
Personal experience	88.67%
Websites	98.00%
Via social media	8.00%
Newspapers	23.33%
	1.33%

According to the study's findings, digital literacy is a relatively "new idea" among teachers.

Student Centered Learning: Reflections from Practicing Countries

Smart nation is aligned with tech-enabled nation building. This case is similar for other countries that have adopted their own smart nation policy. In terms of ICTE policies and strategies, key countries include China, Egypt, India, Mauritius, Russia, Singapore, South Africa, South Korea, UAE, Malaysia, the UK, and the USA. Each of these nations is in the process of formally adopting education policies to address the fast-paced integration of exponential technologies into their economies and societies. Few of the initiatives of different countries are represented in Table. Several countries began formalizing their ICTE policies as early as the 1990s. Singapore and South Korea developed their formal ICTE masterplans in 1996 and 1997, respectively. In 1986, India's educational policy said we should use technology to make education better in Bangladesh and other places. Then, in 1992, they updated the policy and made two important plans: one for using educational technology (ET) and another for teaching computer skills in schools (CLASS). In 2004, they made a rule for using computers in schools, and in 2005, they said it's important to use computers well in education. In 2012, they made a policy just for using technology in schools. India's policy says education should keep Indian culture in mind. Concerns about the potential loss of nuances in culture and language that can be caused by the use of natural language processing (NLP) systems.

Furthermore, several of these initiatives acknowledge long-standing education quality issues. For example, India's national AI plan emphasizes the need of addressing issues like as low retention, school dropout, and poor learning outcomes. These difficulties are linked to issues such as multigrade and multilevel classrooms, a lack of participatory pedagogy, inefficient remedial training, teacher shortages, limits in teacher professional development systems, and low technology uptake among instructors. These countries are therefore actively attempting to address these difficulties and improve the quality of education through the incorporation of technology.

Education initiatives: Singapore

Between 1997 and 2004, there were big changes in the education policies of Singapore. Education authorities wanted students to have a mix of skills and knowledge, not just facts. They valued things like creativity, flexibility, and being able to learn throughout life. They saw computers as helpful for learning new things and for being able to learn anytime, anywhere. The internet became important too, for things like email, entertainment, and business. The goal was to make students ready for a world where being smart and able to solve problems was important, and where they could work alone or in groups. They also wanted teachers to be trained well in using technology. Overall, they wanted education to focus on thinking, creativity, using technology, and being good citizens. Singapore's education system has similar key features, emphasizing critical thinking, creativity, using technology, and administrative excellence.

Table 7

Key Features of Education in Singapore

Changes in education policy 1997-2004 • A suitable combi knowledge. • Emphasis adaptability, creativity, and continuous	nation of skills and on innovation, entrepreneurship, a dedication to learning.	• The Internet is widely used for personal email, official communications, entertainment, e-commerce, and eGovernment. • New demands for economic competitiveness. • high skills formation strategies	
• Computers can promote learning by enabling access to new information sources, self-paced and interactive learning, and anytime/anywhere learning. • Technology in learning work ethics, efficiency throughout education		Ideology of economic nationalism	
Traditional education systems, dominated by teachers, and syllabuses were replaced. Holistic education recognizes the full range of talents, abilities, aptitudes, and skills that students possess. The emphasis is on critical and creative thinking, the use of technology in education, national education (citizenship education), and administrative excellence.	Method: • Teaching thinking skills through infusion and direct teaching, incorporating interdisciplinary project work, and implementing a school cluster system for greater autonomy. • Provide leadership training to promote effective school management. • Teachers are entitled to 100 hours of inservice training per year to maintain their skills and knowledge. • One per every two students. The computer is clearly recognized as a tool, and the emphasis is on using it into learning and teaching for up to 30% of instructional time. All teacher trainees are required to complete compulsory and elective programs that teach them ICT skills.	The ideal student for the knowledgebased economy is one who is literate, numerate, IT-enabled, able to collect, synthesize, analyze, and apply knowledge to solve problems, creative and innovative, risk-averse, can work independently and in groups, and is a lifelong learner.	

ICT Enabled Education: Malaysia

Malaysia's education system focuses on preparing students for the future economy by emphasizing technology and critical thinking. They aim to achieve sustained growth and productivity by creating a workforce that is both technologically literate and capable of thinking critically. Their philosophy is to develop individuals in a balanced way, intellectually, spiritually, emotionally, and physically. To achieve this, they have implemented various initiatives such as ICT-enabled smart schools, providing computer labs, and training teachers and students in using e-books and e-learning. They have also created platforms like MySchoolNet to make educational resources easily accessible. Teacher training is a priority, with programs like the Cascade Model, pre-service and in-service training, and specialized courses for school heads and education managers. These efforts are geared towards creating a wellrounded and skilled workforce ready to meet the demands of the modern world.

Table 8

Key themes of Malaysian education

Country	economy	Vision	Education
Malaysia	K-economy master plan	Vision 2020 sustained, productive driven growth through technologically literate and critically thinking workforce.	Philosophy: Individual potential is developed in a comprehensive and integrated manner, resulting in individuals who are intellectually, spiritually, emotionally, and physically healthy and harmonious. • ICT enabled smart schools • Providing computer laboratory • Training of teachers and others in the use of e-books and e-learning • ICT by students, teachers and system management • MySchoolNet- a website to help teachers and students access educational information readily.

Priorities on Digital Literacy: Examples from Kenya, Australia

Digital literacy is regarded as the key fundamental skill besides numeracy and literacy. It also has been Kenya, Australia, and Rwanda offer valuable examples of digital literacy practices that Bangladesh can learn from. Kenya, as a low income country, is a good example for digital literacy (Kerkhoff & Makubuya, 2022; Sutter & Kihara, 2019). In 2013, the Kenyan government launched the Digital Literacy Programme, which included the distribution of tablets to schools around the country as well as a new curriculum promoting innovative teaching practices such as digital literacy, learner-centered teaching, and relevance to students' lives. Kenya has made tremendous progress in digital literacy through efforts such as the Digital Literacy Program, which aims to give elementary school kids access to digital devices and instruction. More than one million tablets have been delivered to date.

Australia has implemented various digital literacy programs and initiatives, such as the Digital Technologies Curriculum, which equips students with essential skills like coding and computer science from an early age. People in Bangladesh can learn from Kenya's focus on integrating digital skills into the education system from an early age. Bangladesh could

introduce similar programs to ensure that students have the necessary digital skills for the future workforce.

Table 9

Kenya's key strategies to promote digital literacy

Kenya' key strategies		
Preparing Digital story	**Personal Smart Phones to overcome resource barriers**	**Literacies and Cultural Lens of *Harambee***
The process of developing digital stories emphasized learner-centered instruction, culturally relevant pedagogy, and the use of digital literacies. Participants combined traditional storytelling with their current practice of utilizing slides to communicate in educational contexts.	Teachers acknowledged having to be creative in incorporating technology into their literacy programs due to computer insufficiency, a big number of students, and "Teachers use paper to teach technology". Two innovative solutions included having students work in groups and using personal smartphones, which are more common in Kenya than PCs. An early childhood teacher considered broadcasting recordings of animals on her phone so that pupils may see and hear how different creatures sound. Second, in addition to using the phone, this teacher proposed a novel approach of forming groups to address the difficulty of a lack of devices.	Harambee is an important value that we have. We have this saying: "My child is not my child. My child is part of the community." So, when we educate a child in our community, the obligation does not fall solely on the family. It is for everyone. The symbol of harambee means that the community works as a team in education, conceptualizing the sharing of the responsibility of education between parents and teachers because harambee could help break down barriers between home and school

Source: Kerkhoff, S. N., & Makubuya, T. (2022).

Discussion and Conclusion:

The discussion encompasses various dimensions. One of the central themes explored in this study is the challenges encountered in implementing learner-centered education, particularly in the context of large class sizes and time management constraints. The voices of educators from the schools of Rangpur region highlight the difficulties posed by overcrowded classrooms, hindering personalized attention and effective identification of learning gaps. Similarly, insights from other countries such as India reveal systemic challenges, including low retention rates and inadequate teacher professional development, impeding the effective integration of technology in education.

The study provides valuable insights into the experiences of countries that have embarked on smart education initiatives, offering a comparative analysis of policies and practices. From Singapore's emphasis on critical thinking and technology integration to Malaysia's holistic approach to education, each country's journey reflects unique aspirations and challenges (Zhu et al., 2016). These reflections underscore the importance of context-specific approaches to educational reform, related to the socioeconomic landscape and developmental priorities

of each nation. However, some studies identify an issue in education: many researches (Ndimande, 2018) and practices (Subedi, 2013) are influenced by Western European culture. Decolonization refers to the attempt to decenter Western European culture while incorporating previously excluded perspectives. This study suggests considering these problems for culturally sustaining pedagogy (Alim & Paris, 2017 cited in Kerkhoff & Makubuya, 2022) and decolonizing curriculum (Subedi, 2013).

Considering the conceptual framework for the study, smart education has three reals smart learning environment, innovative instructional modes and modern educational system. The students centered learning of the education curriculum 2021 include the first two reals that student centered learning need a planned setting of learning, particularly well-equipped learning. But it is difficult to use technology support. Rather, the teachers are using those tools available to them to make students understand lessons. From secondary data source, teachers' portal has become a key platform for recognizing innovative instructional mode. The challenge indicated from teachers' opinion is that it becomes difficult to manage students in large class size and group work activities. There is a need of teachers being more tolerant with the students. In terms of modern educational system, using big data, artificial intelligence for making decisions and problem solving strategies, ICT division has prepared policy solutions (ICT Division, 2024). The findings of this study have several implications for policy and practice in the realm of smart education. Firstly, this study highlights the importance of strategic alignment between national visions and educational policies, emphasizing the need for a cohesive approach to harnessing technology for societal advancement. Secondly, the study may be useful to find the ways of addressing systemic challenges such as large class sizes and inadequate teacher training, and attitudes to student centered education, which hinder the effective implementation of learnercentered education. Thirdly, the insights from practicing countries offer valuable lessons for policymakers and educators, emphasizing the importance of context-specific strategies and holistic approaches to educational reform. This study has limitations. To begin, the study's findings, particularly the qualitative findings from a diverse group of educators in a rural region of Bangladesh, cannot be extrapolated or may be difficult to apply to the entire country of Bangladesh. Future research could extend the findings to other parts of the country to investigate these topics in greater depth. Third, our roles as participants and team leaders, as well as data collecting through research assistants during the study's execution, may have influenced participants' responses during FGDs and interviews, as they may have wished to please us or save us from humiliation. Fourth, many data sources were primarily self-reports by respondents. As a result, it is necessary to be more reasonable when using them as proof of practice or implementation.

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National Academy for Educational Management (NAEM)
Secondary and Higher Education Division
Ministry of Education
NAEM Road, Dhanmondi, Dhaka-1205