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Primary Teachers' Knowledge, Attitudes and Practice Toward Blended Education in Bangladesh

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Abstract

This study explores the knowledge, attitudes, and practices of primary school teachers in Bangladesh regarding blended education. 198 teachers from 40 government primary schools were involved in this study. The study employed a mixed-method approach to collect quantitative and qualitative data. Exploratory Factor Analysis (EFA) was utilized to determine the factor structure of the blended education instruments. The findings indicate that teachers generally need more knowledge about blended education. While neutral, they express opposing views on certain aspects, preferring traditional face-to-face teaching over online methods. Disparities were noted between teachers, such as male and female, rural and urban, and senior and junior staff. Despite many teachers having experience with both synchronous and asynchronous online classes, the study suggests that more effective practice of blended education is necessary. Addressing the identified issues is paramount to successfully implementing blended education in Bangladesh.

Key Words: Blended Education, Online Teaching, Face to face Teaching. Primary Education.

1. Introduction

The COVID-19 pandemic has had a profound and far-reaching impact on all aspects of human life, particularly the education sector. Bangladesh was not spared, like many other nations, experiencing an unprecedented 18-month school closure from March 2020 to September 2021. This drastic measure was part of the global effort to contain the virus's rapid spread, but it led to significant disruptions in regular classroom activities. In response to this crisis, the Bangladeshi government introduced a 'Blended Education' approach, utilizing platforms such as YouTube, television, radio, and other social media channels to deliver educational contents during the school closure.

While blended education has widespread adoption in higher education, its implementation in primary education still needs to be improved, particularly in low-income countries such

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as Bangladesh. The government of Bangladesh has undertaken various initiatives to ensure continued access to education during the pandemic, including accelerated learning programs, teacher home visits, and remote learning through television, radio, YouTube, and Zoom, among other platforms. However, the success of these blended learning initiatives hinges on teachers' knowledge, attitudes, and practices.

Despite teachers' critical role in effectively implementing blended education, more research is needed on primary school teachers' knowledge, attitudes, and perceptions toward this mode of teaching and learning in Bangladesh. This study aims to fill this gap by investigating the knowledge, attitudes, and perceptions of primary school teachers in

Bangladesh regarding blended education.

Statement of the Problem

Teachers are pivotal in successfully implementing any educational program, and primary educators are no exception. As Bangladesh introduces a blended approach across all levels of education, primary school teachers will be instrumental in executing and facilitating blended teaching and learning at the foundational level. However, the extent of their willingness to integrate this approach into their teaching practices and their confidence in utilizing digital technologies still needs to be explored more. A thorough understanding of primary teachers' knowledge, attitudes, and practices regarding blended education is essential for developing and implementing effective policies and practices to ensure the successful adoption of blended education in Bangladesh.

The rationale of the study

The rationale for conducting a study on blended education within the primary education sector of Bangladesh is grounded in several key considerations. Firstly, the COVID-19 pandemic has significantly disrupted traditional face-to-face learning, necessitating the exploration of alternative educational approaches to ensure the continuity of education during such crises. Secondly, as a developing nation with limited resources and infrastructure, Bangladesh stands to benefit from blended education, which presents a cost-effective and scalable solution for enhancing access to education. Thirdly, blended learning can improve the quality of education by leveraging technology to deliver personalized and interactive learning experiences (Shrestha et al., 2022). Moreover, it allows teachers to incorporate innovative teaching strategies and tools, enhancing student learning outcomes. By examining blended education in the context of Bangladesh, this study aims to assess the feasibility and effectiveness of this approach within the country's educational system.

Objective of the Study

1. This study examines primary teachers' knowledge, attitudes, and practices concerning blended learning in Bangladesh. Additionally, it aims to identify the challenges and opportunities associated with implementing blended education approaches within the Bangladeshi context and to offer recommendations for scaling up successful models. The findings will provide valuable insights for policymakers to make informed

decisions about integrating this hybrid education system into the broader educational framework. To achieve the study's objectives, the following research questions will be addressed:

2. What is the current knowledge level among Bangladesh's primary teachers regarding blended education?
3. What are the attitudes of primary teachers in Bangladesh toward blended learning?
4. What are the current practices of primary teachers in Bangladesh in implementing blended education?

Limitation of the Study

Due to the study's specific focus, the findings are generalizable exclusively to Bangladesh's Government Primary School (GPS) teachers. Although GPS teachers represent a significant proportion of the primary education workforce, the narrow scope of this research may need to capture the broader landscape of blended education practices across different educational institutions in Bangladesh. Consequently, the results should be interpreted with caution when considering their applicability to the wider educational context in the country.

2. Literature Review

Several studies have demonstrated a positive correlation between adopting blended learning methods and improved student achievement across various countries. For instance, Hasanah et al. (2020) reported significant enhancements in students' critical thinking and communication skills due to implementing a blended approach to education. Similarly, Shrestha et al. (2022) observed that blended learning had a favourable impact on student engagement and academic performance compared to traditional classroom instruction. Furthermore, Mali et al. (2021) found that blended learning positively influenced student achievement, motivation, and engagement, surpassing the outcomes associated with conventional teaching methods.

A key advantage of blended learning is its inherent flexibility, highlighted by numerous researchers. Singh et al. (2021) characterized blended learning as a versatile approach that allows educators to combine the strengths of face-to-face and online learning environments. In a study conducted by Chakraborty et al. (2021) during the COVID-19 pandemic, students expressed comfort and satisfaction with learning through digital devices. Given the effectiveness and flexibility of blended learning, many developing nations have embraced this model as a practical educational approach both during and after the COVID-19 pandemic (Anthony et al., 2020).

The government has drafted a blended learning policy in Bangladesh, as informed by several studies conducted across different educational sectors. Salman et al. (2021) found that high school students in Bangladesh actively participated in distance learning activities during

COVID-19 and found the experience enjoyable, even during evening and nighttime sessions. This study also highlighted the cost-effectiveness of blended education compared to other educational approaches. Additionally, Lapitan et al. (2021) argued that blended teaching

and learning is particularly suitable for low-income countries, emphasizing that teacher preparedness is crucial for the successful implementation of this policy.

Conceptual framework

Tang and Chaw (2013) identified six critical aspects of learning that can be used to assess students' readiness for adopting blended learning. These aspects include learning flexibility, online learning, study management, technology, online interaction, and classroom learning. However, in a study conducted in Trinidad and Tobago—a developing country—Birbal et al. (2018) observed variations in these learning aspects. Specifically, they identified a new aspect, the "online environment," which replaced the original aspect of study management. This study adopts the six aspects identified by Birbal et al. as the conceptual framework for its analysis.

The following figure illustrates the conceptual framework employed in this study:

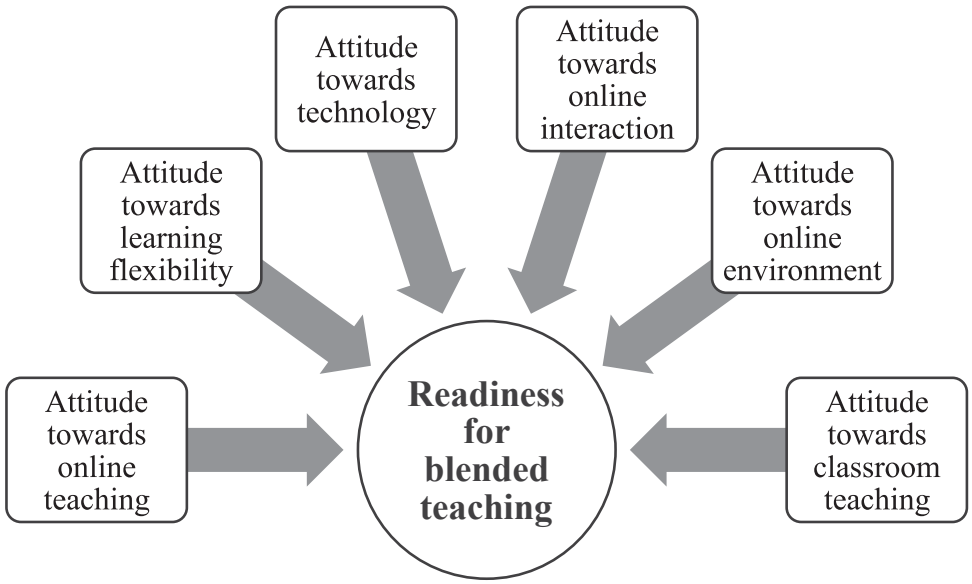


Figure 1: Conceptual Framework of the study

3. Methodology

Study Area and Period

This research focuses on two administrative divisions of Bangladesh, Dhaka and Sylhet, as the designated study areas. Within these divisions, two districts from each were selected for data collection, resulting in four specific districts being targeted: Sylhet, Habiganj, Gazipur, and Manikganj. The field data collection was conducted over an extended period, from December

10, 2022, to June 23, 2023.

Nature of the Study

The study employed an explanatory sequential design within a mixed-method research approach. Initially, quantitative data were collected and analyzed, followed by the subsequent collection and analysis of qualitative data. This approach facilitated data triangulation, enhancing the robustness of the interpretation of the findings.

Procedure of Sampling

Due to the study's large population size and budget constraints, the research team employed a systematic sampling approach to select two administrative divisions out of eight in Bangladesh. Within each chosen division, two districts were randomly selected, resulting in four districts being identified from a total of 64. Subsequently, eight upazilas (two from each district) were selected. From these upazilas, five government primary schools per upazila were chosen through simple random sampling, culminating in a total of 20 schools. All teachers from these selected government primary schools (GPSs) were included in the sample for this study. According to BANBEIS (2021), the average number of teachers in GPSs in Bangladesh is five. Thus, the study anticipated a sample size of 200 teachers. Ultimately, 198 teachers (33 head teachers and 165 assistant teachers) participated in the study.

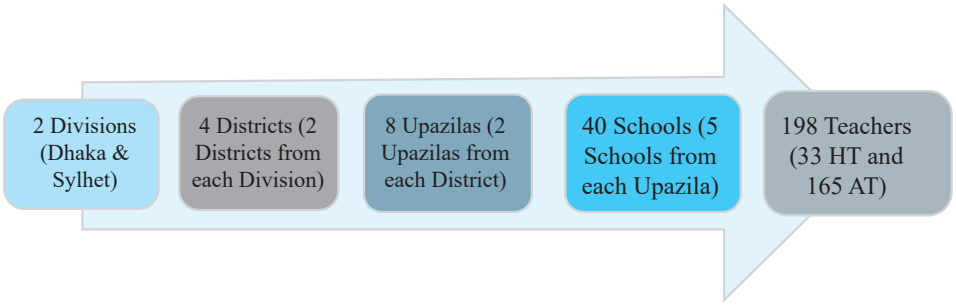


Figure 2: Sampling Methods

Data Collection Methods

Quantitative data regarding primary-level teachers' attitudes were gathered using a Likert-type scale from 198 government primary school teachers. Qualitative data were obtained through Focus Group Discussions (FGDs) conducted with a semi-structured interview schedule. The researcher distributed the questionnaires at the sampled schools and collected the completed forms after five working days. The data were then analyzed, leading to the selection of four focus groups based on the analysis results. The researcher conducted the FGDs in four distinct locations, with the assistance of two research assistants, throughout the qualitative data collection process.

Data Analysis

Exploratory Factor Analysis (EFA) was utilized to determine the factor structure of the blended education instruments. Both descriptive and inferential statistics were applied

to address the research questions. Statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS v.26). Descriptive statistics provided insights into the research questions. In contrast, inferential statistical tests, including t-tests, Pearson product-moment correlations, and analysis of variance (ANOVA), were employed to analyze the data further.

The results were presented using tabular formats and graphical representations.

Ethical Consideration

All research ethics were rigorously adhered to throughout the study. Informed consent was obtained from all participants prior to the commencement of data collection. Additionally, the information gathered will be utilized exclusively for this research.

4. Findings and Discussion

Results

- The study participants exhibit limited knowledge of blended education, primarily understanding it as a combination of online and offline classes.
- Participants expressed a need for more excellent knowledge about blended education. For instance, one participant noted, "I do not know what blended education is, despite having conducted a class on Zoom during COVID-19."
- Another participant commented, "I use a laptop and projector to display pictures and videos, which I consider blended education."
- The overall mean score of 2.975 reflects a neutral attitude among the participating teachers towards the blended education approach. However, many teachers, particularly those with more experience, have a positive attitude (mean score of 4.32) toward the technological aspects of blended education.
- The learning environment during online classes is a significant concern. Many teachers believe the need for more interaction between teachers and students could positively impact the learning experience.
- A notable percentage of teachers (11.1%) do not utilize available technology in their classrooms, and the reasons for this lack of engagement need to be clarified.
- More internet access in some rural areas must be addressed to facilitate practical classroom activities using digital devices.

Interpretations and Presentation

Mean and standard deviation were computed to explore the most perceived factors among the six. Table 1 revealed that participants' teachers perceived Technology (M 4.32) as the most critical factor. Teaching flexibility (M 4.13) was perceived as the second most important,

followed by online interaction (M 3.03) and online environment (2.74). Online teaching (M 2.23) and classroom teaching (M 1.40) are the least important factors.

Table 1: Mean and Standard Deviation of the Factor

Factors	N	Mean	SD
Technology	198	4.32	.53551
Teaching flexibility	198	4.13	.73777
Online Interaction	198	3.03	.91611
Online environment	198	2.74	.85070
Online teaching	198	2.23	.69750
Classroom teaching	198	1.40	.45208

A significant difference has been found in the case of teaching flexibility according to gender as well as the location of the schools. Female teachers are more likely to support the flexibility it has in teaching online than male teachers. Likewise, Rural teachers favour this aspect more than urban teachers. In the case of other factors, no significant differences were found. Table 2 below shows detailed information regarding this issue-

Table 2: T-test results comparing Rural-Urban and male-female Teachers' attitudes.

Factor	Location of school					Gender				
		N	Mean	SD	Sig		N	Mean	SD	Sig
Online Interaction	Urban	80	3.0094	0.87280	.284	Female	132	3.0284	.91460	.832
	Rural	118	3.0508	0.94765		Male	66	3.0455	.92602	
Classroom teaching	Urban	80	1.4375	0.50394	.064	Female	132	1.4072	.45755	.825
	Rural	118	1.3665	0.41304		Male	66	1.3712	.44342	

Technology	Urban	80	4.2875	0.55743	.311	Female	132	4.3258	.56103	.171
	Rural	118	4.3339	0.52170		Male	66	4.2939	.48386	
Online environment	Urban	80	2.6583	0.80953	.374	Female	132	2.7146	.83614	.720
	Rural	118	2.7910	0.87684		Male	66	2.7828	.88384	
Teaching flexibility	Urban	80	4.1167	0.62101	.047*	Female	132	4.2045	.66367	.028*
	Rural	118	4.1384	0.80987		Male	66	3.9798	.85311	
Online teaching	Urban	80	2.2750	0.71899	.930	Female	132	2.2475	.73634	.165
	Rural	118	2.1977	0.68388		Male	66	2.1919	.61619	

This study found significant differences between the primary teachers regarding the online environment factor. Mean scores increase with years of teaching. Teachers with 21-30 years (M 3.05) of teaching experience are more likely to support the online environment than teachers with less experience. However, no significant difference was found in the case of other factors. The table below 3 demonstrates the primary teachers' attitudes towards the online environment-

Table 3: Mean and standard deviation by teaching experience.

Factor	Years	N	Mean	Std. Deviation
Online environment	0-10 years	87	2.5594	0.82043
	11-20 years	85	2.8235	0.85695
	21-30 years	26	3.0513	0.82566
	Total	198	2.7374	0.85070

5. Conclusion

Primary-level teachers require additional knowledge and understanding of blended education, which must be addressed before implementing this new educational approach. The study findings indicate that while there is some awareness and interest in blended education among primary school teachers in Bangladesh, considerable challenges remain. The research underscores the necessity for enhanced training and professional development to improve teachers' competencies in delivering blended education effectively. Additionally, it highlights the critical need for schools to be equipped with the requisite infrastructure and resources, including reliable internet connectivity and digital devices, to support the successful adoption of blended education.

6. Recommendations

Firstly, ensuring schools can access the necessary technology and infrastructure to support blended education, including reliable internet connectivity, computers, and other digital devices, is essential. Secondly, teachers need necessary training and professional development opportunities to help them develop the necessary skills and knowledge to deliver blended education effectively. Last, a clear and comprehensive policy framework for blended education that outlines its purpose, objectives, and implementation strategies is required.

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