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Re-Imagining Post COVID Education the Challenges and Opportunities of Blended Approaches in Bangladesh

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ABSTRACT

The COVID-19 epidemic has taught the global education community, including Bangladesh. After the epidemic, switching to online education was very difficult. Many educational institutions worldwide struggled to switch from on-campus to online learning since it required considerable adjustments to their digital competences, pedagogical expertise, psychosocial counseling, interaction levels, engagement techniques, evaluation methodologies, support systems, etc. After the Covid period, should we return to traditional teaching and learning approaches or embrace the revolutionary new possibilities? Never. What tactics should we use? For this study, Bangabandhu Digital University, Bangladesh Open University, and Daffodil International University researchers gave students and instructors a semi-structured questionnaire. Blended learning is common in Bangladesh, according to preliminary study. We identified numerous challenges and potential for building a sustainable blended education system in Bangladesh using the Blended Education For All (BEFA) model.

INTRODUCTION

As a result of the COVID 19 pandemic, large and quick changes have occurred in the national education ecology. Historically, the teaching and learning techniques in the country were predominantly institution-based and predominantly traditional, where teacher-centered lecture-based pedagogy, limited to rote learning, was the standard in the education system and students played a passive role (Barua *et al.*, 2020). The Ministry of Primary and Mass Education and the Ministry of Education, despite the closure of all educational institutions in the country due to the COVID-19 outbreak, have been working to help students continue their education at home. Both ministries have launched distance or remote learning initiatives employing Sangsad TV, mobile phone, and internet platforms to reach as many students as possible (Kempuraj *et al.*, 2020). Moreover, in consideration of other low-tech options, the government has been developing new pedagogies to transmit education via radio and mobile devices in order to reach the disenfranchised student population. Similarly, the University Grants Commission (UGC) of Bangladesh advised universities on April 5, 2020 to resume teaching and learning, including online exams, grade publication, and continued admission for the next semester (Mahmud *et al.*, 2021). In addition to disrupting routine teaching and learning activities, COVID 19 pushed the education system towards innovation in educational technology and changes in the behavior of system stakeholders. Thus, traditional pedagogical techniques have changed, as teachers and students have had to adjust to a growing use of educational and digital tools (Gamage *et al.*, 2022). Blended learning has been shown in numerous studies to

improve students' ability to work together to learn, think creatively, study independently, and tailor their learning experiences to their individual requirements.

Purpose of the Study

The objectives of the study is to-

- Analyze the blended education for all (BEFA) framework
- Identify the challenges and opportunities of blended education.

LITERATURE REVIEW

The United States Department of Education states that students benefit most from a curriculum that incorporates both face-to-face and online instruction. Numerous blended learning studies show that students improve in areas such as collaborative learning, creative problem solving, independent study, and the ability to tailor their learning experiences to their individual preferences (Means *et al.*, 2009).

Since the dawn of humankind, we have been accustomed to face-to-face education, which is supplemented by digital tools or ICTs and referred to as digital learning, for example, teaching in a classroom with a multimedia projector (Akinoso, 2020). Blended learning refers to the deliberate combination of face-to-face and online activities, such as using a learning management system (LMS) as a digital content repository and incorporating formative assessment into face-to-face classes, or integrating three days of face-to-face instruction with two days of online instruction, etc.

Bodrul Huda Khan presented a framework for e-learning with eight aspects, including institutional, pedagogical,

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technological, interfacial, managerial, evaluation, resource support, and ethical (E-learning in Management, 2023). This paradigm has served as a guide for numerous e-learning and web-based education programs. It is an effective model for instructional design, a fundamental component of teaching-learning activities, and a vital component of the blended education ecosystem.

Community of Inquiry (CoI) is a second framework consisting of interrelated social, cognitive, and teaching presence elements (Wang *et al.*, 2015). As part of online education, it acknowledges the dynamic relationship between the parts and is commonly used to examine interaction in both synchronous and asynchronous computer-mediated communication. This model suggests how the interactions between the many important parts and enabling factors should be considered; this dynamic is reflected in the Theory of Change for the Blended Education Master Plan, which follows.

The Complex Adaptive Blended Learning Systems (CABLS) framework developed by Wang, Han, and Yang (Yuping *et al.*, 2015) appears to be a viable one. Based on

the ‘edge of chaos’ concept⁸, it has been widely used to get an understanding of the complex nature and dynamics of systems. Based on this theory detailing six subsystems and their relationships—learner, teacher, technology, content, learning, and institution—the CABLS framework is established, highlighting the significance of considering teaching-learning activities and evaluations.

Mr Anir Chowdhury and Dr. Md. akhtaruzzaman introduce the Blended Education For All (BEFA) framework, 2020 conceptualized in Bangladesh, it could be a viable framework for blended education implementation and practices on a national scale in different parts of the world (Aktaruzzaman, *et al.*, 2022). It equally emphasizes inclusiveness, teaching-learning process and collaboration in the system at the individual, community, institutional and national level that paves the way for a sustainable and effective blended education ecosystem. The Blended Education For All framework addresses one of the five key elements of the framework - the key elements are, in order are:

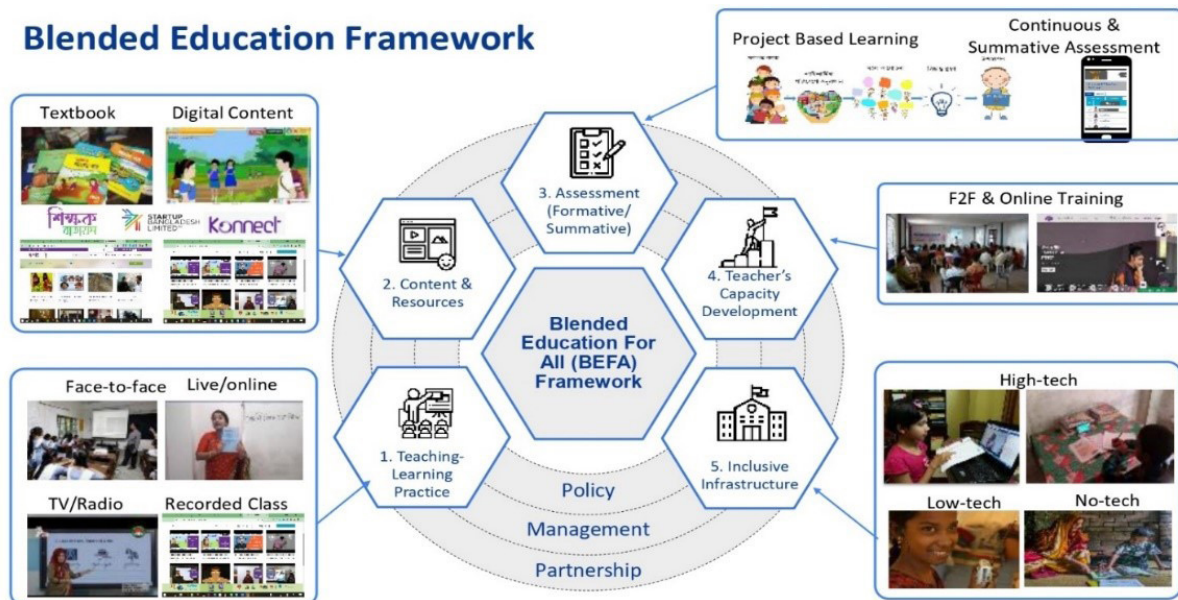


Figure 1: Blended Education for All (BEFA)

The Framework Has Five Key Elements

Teaching-Learning Practices

Which aim to prepare learners for the future with 21st century problem-solving skills through synchronous and asynchronous interaction.

Educational Content and Resources

Which are accessible, affordable, reusable, interactive and personalised educational content and resources for all.

Assessments

Continuous/formative and summative, among which formative assessments are real-time and performance-based through the use of artificial intelligence tools.

Teacher Professional Development

which is blended, personalised and continuous.

Inclusive Infrastructure

which includes ensuring open, accessible, and inclusive physical and virtual learning spaces for all, including systems for connectivity, electricity, bandwidth and devices such that learners and teachers have access to these learning spaces.

In addition to these key elements, there are three enabling factors:

- Policy, which should be comprehensive and practitioner-driven. This includes a range of supporting policies and guidelines for this current Master Plan such

as ethical, legal issues, ICT policy, education policy, etc.

- Management, which include real-time and data-driven progress tracking, quality assurance, performance appraisals, and guidance.
- Partnerships, which include public-private-people partnership, as no one entity will be able to execute this master plan alone.

METHODOLOGY

Qualitative case studies involving three different universities in Bangladesh for the study. The cases were- BSC in ICT in Education Program, Bangabandhu Digital University, BSC in ICT in Education Program, Daffodil International University, Four years Bachelor Program

in Bangladesh Open University. These three cases were selected using purposive sampling.

Sampling Technique

Purposive sampling was being used for collecting data. 500 students were chosen from 3 different universities in Bangladesh. Among them 100 from Bangabandhu Digital University, 100 from Bangladesh Open University, 300 from Daffodil International University. 50 percent are female and rural respondent among the total sample size. 10 teachers and practitioners also selected as an expert of Blended Education.

Data Collection Technique

Table 1: Data collection technique sources

Technique	Sources
Content analysis	<ul style="list-style-type: none"> • Blended Education Policy 2021 (Bangladesh) • Blended Education For All (BEFA) framework (BEFA) Chowdhury and Aktaruzzaman (2022) • National Blended Education Masterplan (Bangladesh) 2022 • Relevant research articles • National statically report (Bangladesh) 2021
Semi-structured Interview	<ul style="list-style-type: none"> • Students • Teachers • Blended education expert and practitioners
Participant Observation	<ul style="list-style-type: none"> • Students engagement, classroom observation • University support • Academic + Infrastructural

Primary data is collected from the content analysis and the secondary data is collected by the, semi-structured interview and participant observation. Interview and observation tools is developed by maintain Blended Education for All (BEFA) framework (BEFA) (Aktaruzzaman, *et al.*, 2022)].

Data Analysis Technique

Based on the BEFA frame work thematic analysis was used in this study. Raw data were thematically analyzed using document analysis method. The researchers engaged themselves as a facilitator to get a valid result. Content analysis is also conducted to provide support for the observed data. Longitudinal time horizon was used in this study.

LIMITATIONS

Time and budget constraints are the key limitations in this study. Due to budget issue, we had to select sample size purposively from Gazipur District. Though 3 famous universities were selected as sample, administrative support was not adequate to conduct the study spontaneously. Covid 19 pandemic and lockdown limitation are also responsible to some extent.

RESULTS AND DISCUSSION

The Challenges and Opportunities of Blended Approaches in Based on BEFA Framework Teaching-Learning Practices Challenges

- Blended education expert and teachers in this research population are agreed that, if we ensure the effective and

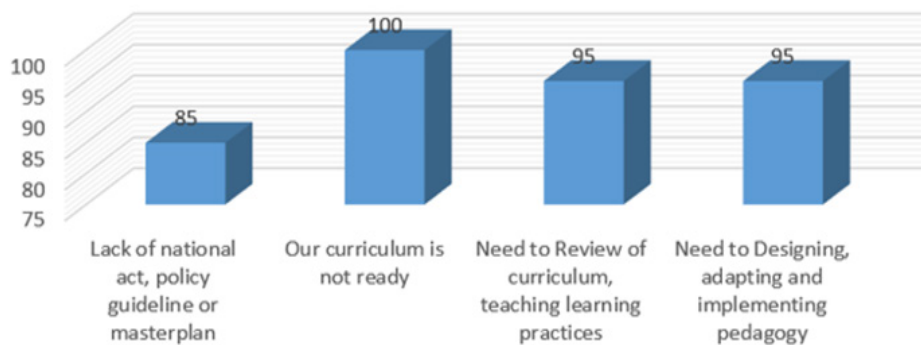


Figure 2: Expert opinion; challenges of blended teaching learning practices

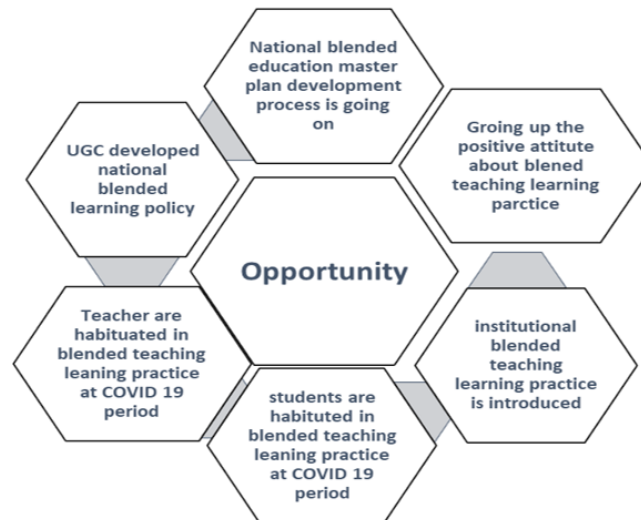


Figure 3: Expert opinion; opportunities of blended teaching learning practices

sustainable blended education we need to-

- Prepare a national blended education teaching learning retreated act, policy and guideline
- Design curriculum transformation policy and guideline and review our existing curriculum to transform it from face to face to blended online method.
- Identify the appropriate blended pedagogy for the effective teaching learning practice and achieve the proper learning outcomes.

Opportunity

To overcome this challenges blended education expert have mentioned some teaching learning practices related opportunity;

- Bangladesh national blended education master plan

development process is going on

- University Grants Commission (UGC) Bangladesh developed national blended learning policy
- Teacher are habituated in blended teaching leaning practice at COVID 19 period
- Students are habituated in blended teaching leaning practice at COVID 19 period
- Institutional blended teaching learning practice is introduced
- Goring up the positive attitude about blended teaching learning practice

Educational Content and Resources Challenges

Blended education expert and teachers in this research population are agreed that, if we ensure the effective and

No Tech	Low Tech	High Tech
<ul style="list-style-type: none"> • Printed materials and books • Stationery • Playful learning landscape • Site visits • Toys Board Games • Activity Kits 	<ul style="list-style-type: none"> • Radio broadcasts • Digital audio books • SMS • Phone calls • Apps 	<ul style="list-style-type: none"> • Digital class room • Video conferencing • AR/VR & Metaverse content • AI integrated Others apps website <p>LMS</p> <ul style="list-style-type: none"> • Social Media • Digital library Museums Virtual Simulation lab

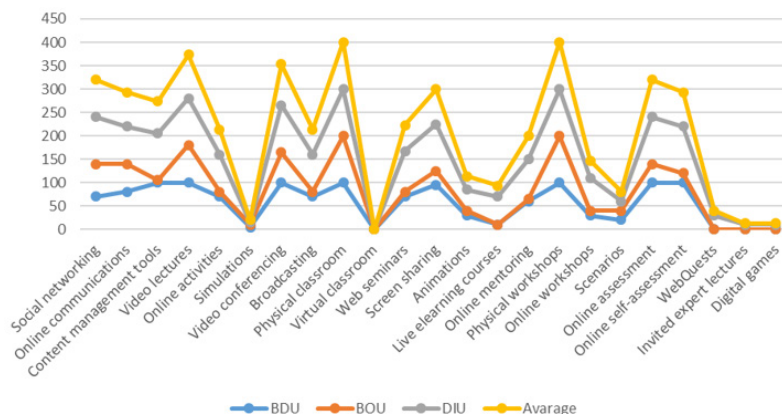


Figure 4: Educational Content and Resources Challenges

sustainable blended education content and resources we have some challenges like -

- Review of curriculum, content and resources
- Developed content design and selection policy
- Blended content is not interesting right now
- Need to update large number of content in graphical presentation
- Need to integrate in-content interactivity
- Need to prepare Need based open educational resources including;

Opportunity

Opportunity to overcome this challenges blended education expert are mention some educational content and resources related opportunity;

- The national blended education master plan development process is going on
- NCTB is starting the textbook content digitalization process
- Some Industries are now starting the content digitalization process
- Teachers and students are now conscious of the benefits of effective blended content
- Bangladesh government take an initiative to approve national OER policy

Assessments Challenges

Blended education expert and teachers in this research population are agreed that, if we ensure the effective and sustainable blended education assessment we have some challenges like -

- Need to developed blended assessment policy, guideline
- Proper blended assessment tools development
- Maintain best exam proctoring environment

Opportunity

to overcome this challans blended education expert are mention some assessment related opportunity;

- Teachers and students and policymakers are now conscious about the of the benefits of effective blended assessment
- Teacher, students are habituated in blended assessment practice at COVID 19 period .

Teacher Professional Development Challenges

Bended education expert and teachers in this research population are agreed that, if we ensure the effective and sustainable blended education related teacher professional development we have some challenges like -

- Need to develop blended education related teacher professional development policy, guideline and initiatives.
- Need to train up about blended education related aspects at a time around one million teacher

Opportunity

To overcome this challenges blended education expert mentioned some assessment related opportunity;

- The national blended education master plan development process is going on
- Online teacher training initiative is already introduced
- Teachers and policymakers are now conscious about the of the benefits of effective blended training
- Teacher, are habituated in blended online training at COVID 19 period.

Inclusive Infrastructure Challenges

Blended education expert and teachers in this research population are agreed that, if we ensure the effective and sustainable blended education related inclusive infrastructure, we have some challenges like-

- Need to established inclusive infrastructure including; internet, devise related software
- Need to ensure a large budget to established inclusive infrastructure

Opportunities

The government has devised a massive plan to connect all 4554 lowest administrative units (unions) by June 2023 using a variety of programs and agencies, including Info Sarker-3 (2,586), BTCL (12,16), Connected Bangladesh (617), and Satellite (12). 97 locations, including industrial zones, cantonments, and government buildings, are digitally linked. Due of its remote location, 34 unions have been excluded. Now, it would be simpler for the government to design and build the last-mile infrastructure from the nearest PoP or mobile tower to connect every educational institution in the nation. Each classroom or teacher's room should have at least 20 Mbps, while computer labs should have between 30 and 50 Mbps (Aktaruzzaman, *et al.*, 2022)

CONCLUSIONS

The Blended Education For All (BEFA) has therefore been conceptualized as an useful framework for national system-building/scaling. It is anticipated that the BEFA framework will provide assistance to both developing and developed countries in terms of understanding how to create greater educational opportunities for their communities through blended, online or any form of digital education. This is an attempt to provide a common language and common templates to facilitate planning and implementation. If it becomes successful, such a blended education ecosystem will not just transform the education system, it will transform Bangladesh itself, into an innovative Bangladesh by 2041.

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