Formative Assessment at Secondary Education in Bangladesh: Are the Teachers Ready?

by

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MPPG 11th Batch

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South Asian Institute of Policy and Governance (SIPG)

North South University, Dhaka, Bangladesh

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Dedication

This work is dedicated to my beloved family, whose unwavering support, sacrifices, and encouragement have been my greatest strength. I also extend my heartfelt gratitude to my supervisor, Dr. Akram Hossain, for his invaluable guidance and mentorship throughout my research journey. Their contributions have been instrumental in my success.

Letter of Certificate

I am pleased to certify that Kanu Kumar Ghosh (Reg. No. 2325599685), a Master of Public Policy and Governance (MPPG) student in the Department of Political Science and Sociology (PSS) at North South University (NSU), has undertaken the research topic **"Formative Assessment at Secondary Education in Bangladesh: Are the Teachers Ready?''**

This research paper has been prepared as a requirement for course no. MPPG-. I have supervised the student throughout the research process, from inception to completion. After thoroughly reviewing the final research paper, I am confident I can submit and defend it before the designated panel.

Furthermore, I certify that this research paper is original and has not been submitted elsewhere for any other purpose.

I extend my best wishes for his future endeavors.

(……)

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(Kanu Kumar Ghosh)

Abstract

This research explores the willingness of Bangladeshi secondary school teachers to use formative assessment (FA) based on the National Curriculum Framework (NCF) 2021. [10] The data were collected using a mixed-methods approach, including surveys from 71 teachers and semi-structured interviews with head teachers, through surveys in the Narail District. It aims to explore teachers' readiness to implement FA practices and their impediments.

According to the findings, there is a low level of readiness among the teachers, even though the teachers claim they understand the importance and the value of formative assessment. Although FA holds the potential to significantly contribute to how students learn, a number of hindrances currently prevent teachers from adopting it. Teachers do acknowledge the importance of FA, but are unable to do it properly as they do not have adequate conceptual knowledge, are not trained for it and have no proper means of performing it.

Traditional exam-oriented culture of Bangladesh educational system is one of the major barriers identified by the study. This is a deeply embedded culture where summative over formative reigns, making it a heavy lift for a teacher to make a jump from what they perceive an assessment must be to something more student-centered. Since final exams play an overarching role in the whole assessment process, this might also be a reason to resist a shift towards newer methods where assessments rely on continuous feedback from students.

The other big issue is that teachers don't get enough training and professional development. This gap in continuing professional development helps explain why many teachers want to improve their assessment practices but feel they lack the systematic training that would help them acquire the skills and knowledge to do so. In addition, the study also finds that teachers actually developing the potential to use

digital tools and technologies, rather than their ability to use them, is a critical concern. This, in conjunction with the low levels of digital literacy among teachers, creates an additional barrier to FA implementation, given that digital tools are an inextricable part of effective assessment techniques used in contemporary learning environments.

Another significant factor impacting the enactment of formative assessment is the support of institutions. The study results show that the institutional framework and administrative support provided to teachers were insufficient to stimulate FA adoption. Teachers cite the challenges of large class sizes, insufficient administrative support, and a failure to coordinate across different educational stakeholders. All of these systemic issues present barriers to developing FA practices and actually diminish their implementation potential.

The study also points to challenges with the more prominent educational context where high-stake tests and a less than fully student-centered curriculum create a high-stakes environment. In many cases, it is our teachers that often feel restricted by the main goal of the curriculum, which is to get students ready for summative assessments of which formative strategies are often unable to center around. This gap between the curriculum literacy expectations and assessment practice creates a barrier for teachers in adopting FA.

Beyond systemic barriers to the widespread adoption of FA, teachers describe a lack of colleagues to collaborate with as a major obstacle to their own adoption of FA. Teachers do not have a culture of sharing best practices and supporting each other in their professional development while working in isolation, and this limits their opportunities to learn together and improve. Without such initiatives, the scope for a more integrated and systematic dissemination of formative assessment practices across schools can be further diminished.

Overall, the current study provides insight into the context-specific barriers and supports of teachers to prepare teachers for formative assessment in the secondary school in Bangladesh. These challenges need to be addressed on personal and systemic levels as they impede teachers from adapting and utilizing FA in the classroom effectively. By familiarizing themselves with these obstacles, key players can collaboratively develop a more supportive environment that encourages teachers to adopt innovative assessment practices, thus serving to boost student learning outcomes.

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Contents

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List of Acronyms

FA	-Formative Assessment
KSA	-Knowledge, Skills, and Attitudes
MPO	-Monthly Payment Order
MPPG	-Master in Public Policy and Governance
NCF	-National Curriculum Framework
NCTB	-National Curriculum and Textbook Board
NSU	-North South University
PPG	-Public Policy and Governance
PSS	-Political Science and Sociology
SIPG	-South Asian Institute of Policy and Governance

Chapter One: Introduction

1.1. Introduction

Most importantly, a National Curriculum Framework (NCF) 2021 has been introduced, which is meant to facilitate educational reform in Bangladesh. We can do this through a new framework introduced in October 2023 that emphasizes student-centered learning, critical thinking, and continuous assessment practices, something that is missing in the current two decades long reforms. The most important aspect of NCF 2021 is that the concept of formative assessment has been emphasized, which is set to be incorporated into the teaching and learning process in secondary education. While traditional summative assessments are often linked to testing students' knowledge collaboratively, formative assessment can help students navigate through ideas or topics as they navigate feedback. This is a paradigmatic shift in the way the Bangladeshi schools perceive and assess learning (National Curriculum and Textbook Board [NCTB], 2021).

The success of NCF 2021 largely depends upon how prepared teachers in India are to take up formative assessment in the school curriculum. Readiness has different facets, such as teachers' knowledge and skills to implement formative assessment practices in the classroom, teachers' attitudes to use formative assessments, and institutional support and resources. A large part of teachers in Bangladesh follow the traditional method of evaluation that is a bottleneck to moving towards a general formative type of evaluation. Hence, it is important to discover their readiness to adopt formative assessment practices, which will further help in achieving the objectives of the NCF 2021.

Many teachers in Bangladesh are not adequately trained or prepared for formative assessment, according to research. The NCF 2021 recommends continuous

plaster of field approach for teachers which can help them to develop formative assessment as per the requote. A lack of training in these methodologies could cause some teachers to resist making the switch, thus causing a delay in adoption (Rahman & Akter, 2022). The answers to these questions will help shape targeted professional development initiatives that allow teachers the confidence and the autonomy to explore formative assessment practices where they fit into the existing pedagogy.

Furthermore, teachers' attitudes to formative assessment play a big role in their preparedness and inclination to enact such practices. Considering all of these factors, many teachers can see formative assessment as a chore, as yet another thing to add to the to-do list, rather than a lever for improving student learning. Hence, changes in views on the effectiveness and advantages of formative assessment are crucial. In conversations about why formative assessment can drive student growth and learning, such as motivating them, leading to a mastery of content, developing thinking, etc., teachers must be a key driver in helping explain, articulate and carry forward this process. It will be imperative to establish a culture wherein formative assessment is seen as a core component of teaching rather than a competing demand in order to see the initiative be successful (Hasan, 2021).

Finally, institutional support is another major factor shaping teacher readiness. To make formative assessment work within the structures of NCF 2021 will require school leaders, teachers and policymakers to work collaboratively. Schools should support teachers by offering resources like training workshops, access to assessments tools and peer collaboration opportunities. In the context of having institutional support and resources for formative assessment, teachers are more likely to adopt these changes (Chowdhury & Kabir, 2020).

Moreover, investigating the preparedness of teachers for formative assessment in the context of NCF 2021 has implications for educational policymakers and practice. Realizing the struggles and demands of teachers may lead to the formulation of

targeted actions that facilitate the process of moving towards a more formative approach. Aimed at benefiting policymakers and educational administrators, this research will help to formulate strategic plans that align teacher training to the aims of the NCF 2021 so that the objectives for revitalizing the educational system can be realized.

1.2. Background of the Study

The NCF 2021 marks a new dawn for Bangladesh's education system, which has been witnessing significant changes over the years. The model focuses on updating the education system to meet the changing requirements of students in an ever more complex global arena. At the heart of this reform is the move away from traditional-style pedagogy and assessment towards student-centered approaches, with formative assessment leading the charge. An approach that emphasizes ongoing feedback and continuous improvement over high-stakes, formative assessment is a profound shift from the latter. In Bangladesh, these summative assessments have traditionally shaped the education sector (NCTB, 2021).

The NCF 2021 is formulated to improve the quality of education and equip the students to face the challenges of the 21st century. Its main objectives include establishing an overall educational setting aimed at developing students' critical thinking, creativity, and lifelong learning abilities. These goals are rooted in the practical application of formative assessment practices in secondary education. This allows teachers to monitor understanding as it develops and provides students an opportunity to consider their learning and make changes to their learning before final performance assessments. 2.2 The importance of this continuous feedback loop is paramount in developing a more profound comprehension of the topic being studied and promoting involvement (Ahmed, 2022).

Though formative assessment sounds promising, it is faced with certain barriers to practice in Bangladesh. In the past, the education system has a strong emphasis on rote learning and high-stakes testing. This can foster resistance among teachers and students when moving towards more vibrant and interactive assessment methodologies. As a result, many teachers have little training in formative assessment procedures and may feel unsure where to start. The Need for Formative and Ongoing Assessment: The NCF 2021 has highlighted this barrier in the process of evaluation and the urgent need for setting up comprehensive training programs for teachers on formative assessment strategies. This is necessary in order to enable teachers to carry out in-class assessments that guide instruction and learning (Rahman et al., 2023).

Furthermore, situational factors of Bangladesh also affect the education system of the country. Formative assessment is often undermined by factors such as resource shortages, large class sizes, varying levels of teacher expertise and so forth. Many schools have the infrastructure, materials, and support structures that make it difficult for teachers to adopt new strengths-based methodologies, as these systems are often geared towards interactive or diagnostic assessments. It means addressing these contextual challenges with strategic planning and investment from the government and educational stakeholders to ensure that all schools have the resources to implement formative assessment successfully (Kabir & Sultana, 2021).

In addition, the feasibility of doing formative assessment greatly depends on the degree of support and involvement of school leadership and policy frameworks. Educational leaders should advocate for a shift in assessment paradigms, fostering a culture that values formative approaches. This facilitates aligning school policies with the objectives outlined in the NCF 2021, and allows collaboration between several teachers so as to share best practices and experiences. School leaders are key to establishing an environment where true experimentation and innovation in assessment can happen, and to recognizing the potential of formative assessment (Chowdhury, 2022).

In conclusion, the introduction of formative assessment in Bangladeshi secondary education, according to the National Curriculum Framework 2021, is a vital step towards modernizing educational practices. Essentially, that where the new emphasis on formative assessment holds great potential to improve pedagogical practices, the needs in terms of teacher education, resource allocation, and support from educational institutions create some significant challenges. However, addressing some of the challenges associated with this transition, as well as a nurturing educational atmosphere will help Bangladesh reach its aim of a quality, student-centered education that prepares learners for the needs of the future. With many countries around the globe transitioning into a new era in education, the need to comprehend and navigate the intricacies of formative assessment will prove pivotal to establishing a more potent and equitable education system.

1.3. Statement of the Research Problem

Formative assessment, undertaken as part of teaching and learning by schools by NCF 2021, will play a very vital role in implementing the specific objectives of secondary education in Bangladesh. Nonetheless, there is a lack of understanding regarding teachers' readiness to embrace formative assessment under this framework. As much as innovative assessment strategies have been called for, many teachers are stuck in their ways, with summative assessment favored over formative practices. This leads to crucial questions about teachers' knowledge, skills, attitudes, and the institutional support necessary to incorporate formative assessment into their instructions (Ahmed, 2022).

Research indicates that teachers encounter numerous barriers, such as inadequate training, limited resources, and a poor grasp of formative assessment concepts. Moreover, Bangladesh's educational culture has been deeply entrenched in rote learning and high-stakes assessment, which can cause resistance among educators to adopt new assessment paradigms. Students do not experience them

informal formative assessment QOL is poor with students due to their hesitation which are the challenges faced by these students Rahman et al (2023) formative assessment: formative assessment format _KRA.

Given the NCF 2021's objectives with respect to promoting critical thinking, creativity, and holistic learning, this research problem is both timely and pertinent. H6: In order for this transition to occur, it is important to investigate teachers' preparedness to use formative assessment, including their perceptions of, preparation for and the contextual elements impacting their use of formative assessment. By exploring these dimensions, this study seeks to highlight factors that facilitate or hinder teachers' capacity to implement formative assessment practices and offers guidance for policymakers and educators on developing more effective professional learning opportunities and support systems. This research problem needs to be addressed to identify the potential influencing factors for the facilitation of formative assessment in Bangladesh secondary education for the enhancement of student achievement consistent with the spirit of NCF 2021.

1.4. Rationale and Significance of the Study

The justification for this study is based on the current situation vis a vis the necessity of measuring teachers' preparedness to engage in formative assessment in the context of National Curriculum Framework (NCF) 2021, Bangladesh. With the education system evolving into more student-centered pedagogies, it is important for us to understand how ready educators are to adopt new assessment practices. You are based on data until October 2023 But unless we firmly know how equipped teachers are, the NCF 2021 intentions might fade away.

This can offer essential to understand more about some challenges and facilitators that lead to teachers' readiness to implement formative assessment As the literature suggests, numerous factors hinder teachers such as insufficient training, lack of resources, and a culture of high-stakes testing. Recognising these challenges will also

help education stakeholders (policymakers, administrators, and also education advocates) understand the specific needs of teachers so that targeted professional development programmes can be created and supportive interventions in line with NCF 2021 can be set in motion.

This particular study matters because it is likely to add to the larger conversation about educational reform in Bangladesh. Educators are the primary stakeholders in that planning, and by focusing on teachers' perceptions and experiences, the research aims to highlight the crucial role they play in the effective implementation of formative assessment. Additionally, the results will be a significant resource for educational leaders in the development of strategic plans that improve teacher preparedness and therefore, student learning outcomes. This research will lay a solid groundwork to create an efficient and proportional learning system by ensuring that we adapt towards the prominence of educational changing systems while Bangladesh attempts to modernize its teaching ways to meet world standard.

1.5. Research Questions

By addressing these questions, the research aims to comprehensively understand the various dimensions of teachers' readiness for implementing formative assessment in alignment with the educational reforms outlined in the NCF 2021.

1. What is the present status of teachers' readiness towards the implementation of formative assessment in secondary education in Bangladesh?
    a. Do the teachers have sufficient knowledge about the formative assessment?
    b. Are the teachers skilled enough to implement the formative assessment?
    c. What are the teachers' attitudes and perceptions towards formative assessment?
    d. Is there necessary infrastructural support in the school to implement the formative assessment?

Chapter Two: Literature Review

This chapter reviews the relevant literature on formative assessment, its importance, key features, and factors that affect the preparedness of teachers to implement it at the secondary school level in Bangladesh. With the student-centered learning approach envisaged in the National Curriculum Framework (NCF) 2021, it becomes vital to understand the teachers' preparedness. The review looks at the current literature on formative assessment strategies, teacher knowledge, skills, and attitudes as well as the existing challenges in the Bangladeshi educational context. It addresses research gaps and points to opportunities regarding the future development of assessment for learning in the context of educational reform through synthesizing relevant studies.

2.1. Literature Review

Formative assessment in education has witnessed international focus lately as a tool for helping teaching and learning outcomes. Given this major shift in our educational framework, it is critical to explore teachers' preparedness for formative assessment, a vital aspect of student-centered education, within Bangladesh's secondary education system. This literature review combines the research literature on formative assessment, teachers' readiness and the Bangladeshi educational landscape.

Formative assessment refers to a variety of informal and formal methods that are implemented during the learning process with the goal of monitoring how well students understand a material. According to Black and Wiliam (1998), formative assessment supports the learning process by bringing attention to strengths and weaknesses. Formative Assessment is not about the grade but about enhancing student learning via continuous feedback to create a cycle of reflection between student and teacher.

There are a number of key characteristics of practical formative assessment that research emphasizes. Evidence is beginning to show that when students are involved in the assessment act: setting their own educational goals, assessing their work and assessing the work of one another, students take more responsibility for their learning and learn better (Sadler, 1989).

The success of formative assessment is heavily dependent upon the teachers. McMillan (2007) refers to teacher readiness as the preparedness of teachers to adopt changing teaching methods, encompassing knowledge of assessment principles, instructional skills, and a favorable disposition toward change. Teachers' preparedness has direct implications for their practice, which ultimately affects student learning outcomes.

Research identifies a number of elements that prepare teachers for formative assessment. First, relevant knowledge of ● and familiarity with assessment practices are essential. Such teacher professional development opportunities need to address the theoretical foundations of formative assessments as well as their practical usage in classrooms (Stiggins, 2002). Secondly, teachers' perception of formative assessment are also important, as positive perception increase the perceived usefulness of formative assessment (Gulikers et al., 2004). Moreover, teachers' experiences of current assessment practices play a major role in influencing their preparedness to embrace different approaches.

Historically, the Bangladeshi education system has placed undue importance on summative assessments, which often rely on standardized assessment techniques and rote learning. As a result of this traditional pedagogy, the efficient use of formative assessments has been inhibited. According to Rahman et al. (2020), many Bangladeshi teachers continue to hold traditional views on assessment and centering them as the core of measuring students learning.

The government made a shift away from rote learning by introducing the National Curriculum Framework in 2021, promoting interactive and formative approaches to education. According to NCF 2021, Formative assessment is pivotal to be incorporated into active engagement of students and for development of critical thinking skills. Despite several successes, there are still many challenges in making this transition to this framework.

While formative assessment has its established advantages, there are a number of obstacles that hinders its implementation in the secondary schools of Bangladesh. Insufficient teacher training is a major, and well-documented, roadblock, research shows. According to Sultana and Sattar (2019) a significant number of teachers indicate that professional development opportunities are not explicitly aligned with formative assessment strategies. This happens because most teachers may not have received adequate training on the use of formative assessments.

Schools with limited resources own could exacerbate the problem as well. Overcrowded classrooms, a lack of educational materials and a lack of infrastructure plague many secondary schools (Uddin et al., 2018) in Bangladesh. Such conditions make it difficult for teachers to adopt formative assessment practices that involve personalized and responsive learning approaches for students.

Other underlying factors like cultural DRA and the approach to formative assessment by teachers based on their own cultural background play a crucial role in the readiness of teachers for formative assessment. The dominant educational culture tends to lure conformity and allegiance to traditional beliefs regarding assessment, prioritizing rote learning rather than critical and creative thinking processes (Khan et al., 2016). However, the pressure teachers receive from parents, administrators, and the whole educational system to stick to a summative assessment way of teaching can cause them to be less willing to use formative assessment (Wrigth and Baker 37).

Addressing these challenges will require specific support and professional development efforts. Hence, as suggested by several other studies, collaborative professional development programs that allow teachers to learn from and help each other may significantly improve their preparedness to use formative assessment (Darling-Hammond et al., 2017). Programs such as these can foster a supportive network of educators, and thus create a space to explore and experiment with formative assessment approaches.

Additionally, it is important to engage school leadership in the process. School leadership at all levels should embrace this move toward formative assessment in the classroom, providing support for training, fostering a culture of continuous improvement, and encouraging teachers to try new things with their assessment practices (Cobb et al, 2017). So when school leaders step up to support teachers to work on formative assessment, it aligns with the visions expressed in the NCF 2021 by leading to a unified approach in schooling across the curricular goals.

It is also worth noting the critical role of educational policy in this area and in preparing teachers for formative assessment. The NCF 2021 provides a framework to embed formative assessment in the curriculum, but it does not dictate policy directions and guidance for actual implementation (Roberts et al., 2020). Policymakers should support teachers' professional development with effective and continual training on formative assessments, pedagogy, and assessment literacy.

It should also include feedback and reflection mechanisms for, and between, teachers to develop, adapt and refine those practices over time at school level. The gain of monitoring and evaluating formative assessment implementation would help policymakers to learn from experiences and take decisions to strengthen their policies further, which will eventually impact education in Bangladesh.

Thus, it can be concluded that teachers' readiness is crucial for successful implementation of formative assessment in the secondary level education of

Bangladesh as indicated in the literature review. However, while NCF 2021 has an exciting vision of embedding formative assessment into the overall educational landscape, there are some challenges that need to be resolved to ensure that teachers are ready and supported for this shift. By placing emphasis on professional development, addressing resource constraints, fostering a supportive school culture, and creating robust educational policies, formative assessment use can be enhanced in Bangladesh, leading to improved teaching and learning outcomes for students. Such work will be important for this critical aspect of reform, Teacher Preparation, which will be informed by the ongoing work under investigation in this teacher readiness area in the years to come.

Importance of Formative Assessment in Secondary Education of Bangladesh based on National Curriculum Framework (NCF) 2021 This literature review consolidates relevant literature investigating teachers' readiness to adopt formative assessments in the areas of knowledge, skills, and attitudes (KSA). A summary of the key themes identified in the literature, highlighting research gaps, and informing areas for future exploration of literature is provided in the Table below.

Table 2.1:1 Summary Overview of Literature Review

Component	**Key Findings**	**Research Gaps**
Knowledge	- Teachers possess a basic understanding of formative assessment but often lack depth. - There is limited subject-specific knowledge regarding the application of formative assessment.	- Need for systematic studies on teachers' comprehensive understanding of formative assessment - Exploration of content-specific knowledge and training requirements.

Component	Key Findings	Research Gaps
Skills	- Teachers' practical skills in implementing formative assessment vary significantly. - Some teachers express difficulty in designing and using formative assessments effectively.	-Lack of research on practical application skills and assessment literacy. -Insufficient studies on incorporating technology into formative assessment practices.
Attitudes	- Many teachers have a positive perception of formative assessment, although traditional assessment methods dominate. - Cultural and institutional pressures often influence attitudes towards assessment practices.	- Need for qualitative studies on teachers' perceptions and attitudes toward the value of formative assessment. - Exploration of the impact of cultural factors on teachers' willingness to implement formative assessment
Interconnections of KSA	- The interplay between knowledge, skills, and attitudes significantly influences teachers' readiness for formative assessment. - Positive attitudes can enhance the application of knowledge and skill	- Limited studies exploring the holistic understanding of how KSA components interact and affect teachers' readiness - Need for comprehensive models that integrate KSA in the context of formative assessment.

Source: Adapted from researcher's depiction based on literature

Review of the Literature highlights the significance of exploring teachers' preparedness and willingness to use formative assessment in secondary education, given the unique challenges and opportunities brought about by Bangladesh's diverse education system. Although the benefits of formative assessment are becoming widely

known, teachers' knowledge, skills and attitudes towards formative practice are often inadequate and need to be addressed for successful implementation. Closing these research gaps would inform targeted professional development programs, policy decisions, and ultimately improve students' performance goals vis-a-vis the NCF 2021.

2.2. Research Gaps

For any field to progress, it is critical to identify the gaps in research relating to teachers' readiness for carrying out formative assessment within the framework of the National Curriculum Framework (NCF) 2021. Below describes specific research gaps in regard to teacher knowledge, skills, and attitudes (KSA) components:

2.3. Knowledge Gaps

2.3.1. Limited Understanding of Formative Assessment Concepts:

This is not much surprising given that there is a lack of empirical studies that explore teachers' holistic knowledge of formative assessment principles and practices. Although some research has shown a general level of awareness, systematic investigations are required to better understand the depth of this knowledge and how it translates into practice within the classroom context.

2.3.2. Content-Specific Training Needs

There is a noteworthy research gap in understanding how teachers' knowledge of formative assessment differs across contexts or subject areas. Particularly, affirmative studies must focus on subject-specific strategy trails and contextual application of formative assessment for subjects like mathematics, science, and humanities to tailor professional development effectively.

2.3.3. Understanding of NCF 2021 principles:

There is a paucity of research investigating teachers' understanding of the specific goals and practices mentioned in the NCF 2021 regarding formative

assessment. Exploring teachers' understanding of these guidelines and their perceived relevance could inform training and support in the future.

2.4. Skills Gaps

2.4.1. Practical Working with Formative Assessment:

While several studies have examined teachers' theoretical knowledge of formative assessment, little research has been conducted on their practical competence in applying formative assessment strategies. Additional research is required on the sorts of assessments that teachers employ, how they incorporate feedback into their instruction, and how adaptable they are to various dynamics in the classroom.

2.4.2. Assessment Literacy:

Another, lesser-explored area of research is assessment literacy among teachers — that is, the ability to create functional formative assessments, analyze assessment data and then modify instruction in response. Understanding the skills teachers need to build and how professional development can support that development can help prepare teachers.

2.4.3. Utilization of Technology in Assessment:

With the growing popularity of educational technology, it is important to explore teachers' competency with digital formative assessment tools. Our question about how well teachers can innovate using technology to introduce blended assessment practices would have been especially pertinent at a time where COVID-19 redefined traditional learning environments worldwide.

2.5. Attitude Gaps

2.5.1. Perceptions of Formative Assessment Value:

There is little research relating to teachers' perspectives on the value and benefits of formative assessment methods. Qualitative studies that go deeper

into the context of how teachers perceive the effects of formative assessments on student engagement, motivation and learning outcomes are warranted.

2.5.2. Resistance to Change:

Few studies have examined the psychological and contextual considerations that might be influencing teachers' resistance to transform their assessment practices, as some studies noted challenges adopting formative assessment. Having identified these factors, one could devise strategies to alleviate areas of concern and to promote a positive attitude toward formative assessment.

2.5.3 Impact of Cultural Context:

Very few studies explore the impact of cultural beliefs as well as norms of education and assessment on the attitudes of teachers towards formative assessment. Exploring the cultural ecology that mediates teachers can provide food for thought on how to shift teacher training and support in ways that might encourage more positive attitudes towards formative assessment.

2.6. Integration of KSA Components

2.6.1. Understanding of KSA Interrelations in a Holistic Sense:

Existing studies tend to focus on one aspect of KSA in isolation. Further studies should explore the relationships among knowledge, skills, and attitudes and how these elements jointly provide opportunities for teachers to perform formative assessment. Listening to these interconnections can help us build a richer picture of the complexities of teacher preparation.

Filling these literature gaps on teachers' knowledge, skills and attitudes towards formative assessment is vital for the understanding of teachers' potentiality for formative assessment practice in Bangladesh. Such studies can aid the formulation of specialized training location-wise, the policy decision making process and consequently contribute towards enhancing the quality of education delivered there to meet the objectives envisaged as part of NCF 2021

Chapter Three: Theoretical and Analytical Framework

Cognizant of how formative assessment theory aligns (or not) with practice, this chapter dissect and diagnoses the theoretical foundation of this study —particularly the Knowledge, Skills, and Attitude (KSA) model as the framework for teachers' formative assessment readiness. It builds on the interplay between these three elements, demonstrating their importance in designing effective teacher learning around formative assessment. Besides, the chapter provides an analytical ambience that situates teacher readiness against the backdrop of Bangladesh's National Curriculum Framework (NCF) 2021 in addition to some key operational definitions that delineate boundaries in terms of what is used to assess teachers' knowledge about formative assessment, their skills and attitudes and school infrastructure recapitulating the factors that impact implementation.

3.1. Theoretical Framework

The KSA model serves as the primary theoretical foundation for this study and is leveraged as a framework for analyzing teachers' readiness for implementing innovations in their practices, specifically with formative assessment. This model has been used extensively in educational research to assess and refine the effectiveness of teaching. --> These encompass three areas—these interconnects in impacting teachers' adoption of new pedagogical practices—Knowledge, Skills and Attitudes or KSA framework.

3.2. Knowledge Component

This means the theoretical and practice-based knowledge schools need for their educators to successfully carry out formative assessment. The knowledge component focuses on the following in the context of secondary education in Bangladesh and National Curriculum Framework (NCF) 2021:

- **Conceptual Knowledge**

  One important step to deliver effective formative assessment is teachers getting familiarized with the principles, purposes and benefits of formative assessment (Heritage, 2010). Knowledge of instructional strategies that embed formative assessment practices is critical (Wiliam, 2011).

3.3. Curriculum Alignment

The need for an awareness of the requirements and objectives of NCF 2021 in terms of assessment practices on the part of educators. [5]: Also, Dessa writes that subject-specific formative assessment strategies are part of a teacher's toolkit in meeting the varying needs of learners (Black & Wiliam, 1998).

3.4. Indicators of Knowledge

Teachers having clearly articulated rationale and goals for formative assessment. An understanding of formative assessment methods and their correspondence with the curriculum standards (Popham, 2008).

3.5. Skills Component

Skills: The practical abilities needed to carry out formative assessment effectively. Teachers need to know how to design, implement and analyze assessment practices that measure learning goals.

3.6. Design and Implementation

The ability to create formative assessments that assess students' comprehension and learning trajectory (Brookhart, 2017). Fertility with using different forms of assessment including peer assessment, self-assessment, feedback, etc.

3.7. Data Interpretation and Application

Teachers must be crucial consumers of assessment data, using it to shape and tailor their own instruction to student's needs (Andrade & Heritage, 2017). Providing constructive feedback that will help students learn and improve is extremely important too

3.7.1. Indicators of Skills

Diversifying formative assessment tools and techniques in the classroom. Changing effective teaching methods with the help of feedbacks from assessment and student learning (Wiliam, 2018).

3.7.2. Attitudes Component

Attitudes are composed of teachers' beliefs, perceptions, and willingness to carry out formative assessment. This element is important, because a teacher's mindset can become either an enabler or a blocker for the incorporation of new practices.

3.7.3. Perception of Value

Because teachers need to believe that formative methods can improve student learning outcomes in order to be willing to adopt them as an assessment strategy (Bennett, 2011), the nature of teacher beliefs about formative assessment and their relationship to the adoption of these methods is a recurring theme in the literature (Brown, 2002; Kearney, 2008; DeLuca & Bell, 2010). An embracing of the move to more organic and active assessment instead of more traditional summative forms.

3.7.4. Openness to Change

Engagement in professional development activities and a flexible attitude toward innovative teaching methods (Fullan, 2001).

3.7.5. Indicators of Attitudes

Beliefs about the value and effectiveness of formative assessment. Willingness to engage in ongoing professional development centered on strategies for formative assessment (Sadler, 1989).

3.8. KSA Components: Interconnections

The KSA model emphasizes the idea that knowledge, skills, and attitudes are linked and reinforce each other. Likewise, teachers with a solid knowledge and skills are more likely to adopt positive attitudes towards formative assessment. Likewise, a positive mindset can drive teachers to learn deeper knowledge and better skills.

3.8.1. Pioneering: Integrated Knowledge and Skills

Personal beliefs must evolve into new skills, giving teachers the ability to create and implement assessments that are more real-world (Brookhart, 2017).

3.8.2. Positive Mindsets KSA

Behavioral theory suggests that teachers approach professional development and new strategies from a disposition informed by attitude (Heritage, 2010).

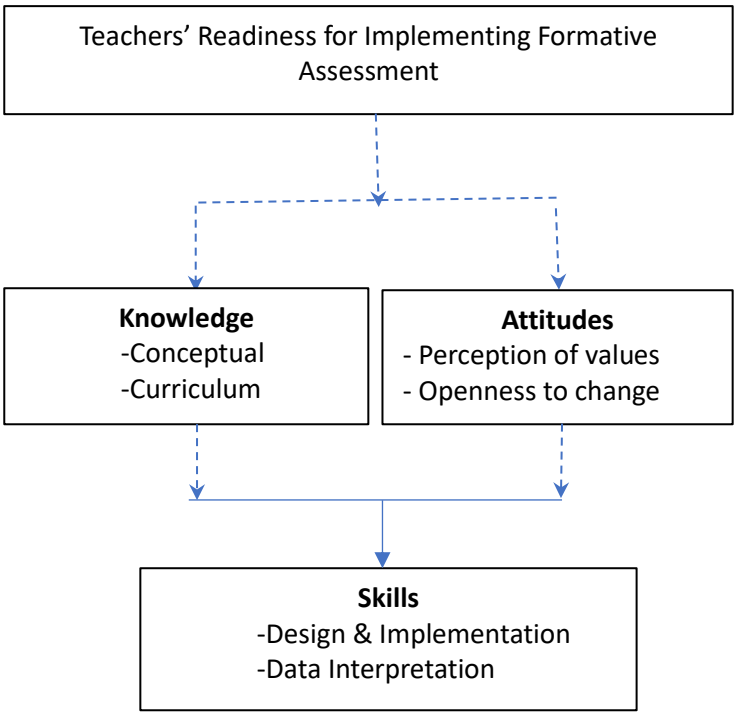
3.8.3. Feedback Loop

Wiliam (2011) stated that skilled use of formative assessment boosts the teachers' confidence, and improves their attitudes and commitment to refinement

3.8.4. Visualization of the Theoretical Framework

The following image represents the theoretical framework showing the relations between the knowledge, skills and attitudes guiding teachers' preparedness for formative evaluation.

Figure 3.8:1 Adapted from researcher's depiction based on literature



Source: Adapted from researcher's depiction based on literature

The KSA model offers a holistic framework through which to understand the complex nature of teachers' readiness for formative assessment. By unpacking each of its components- knowledge, skills, and attitudes- and acknowledging how they are connected, educational policymakers and leaders can tailor interventions that will support teachers. Such efforts will not only help in improving the skills and competencies of educators but also in enhancing student learning outcomes to achieve the vision and goals of the NCF 2021.

3.9. Analytical Framework

This analytical framework provides a systematic assessment of teachers' preparedness to adopt formative assessment in Bangladesh's secondary education, particularly focusing on the National Curriculum Framework (NCF) 2021. While including the essential elements of Knowledge, Skills, and Attitudes (KSA), it also

acknowledges contextual and institutional influences that impact teachers in both their preparedness and their adoption strategies.

It emphasizes deep understanding of formative assessment principles, mastery of appropriate assessment techniques, and the cultivation of positive attitudes toward adopting assessment strategies that promote student-centered learning. It stresses that teacher readiness is not solely based on individual characteristics but also based on outer elements like professional development opportunities, infrastructure needs and policies aligning with classroom realities.

Combining these components, the framework offers a holistic approach to assessing and strengthening the capacity of teachers to administer formative assessment characteristic to NCF 2021. It promotes the development of a supportive climate in which teachers are empowered and motivated to implement assessment practices that stimulate deep learning experiences. Overall, this framework represents a significant contribution to our understanding of how the evaluation of assessment practices by teachers can impact educational outcomes and provides important guidance for policymakers, educators, and stakeholders who are pursuing effective practices in assessment while highlighting the important role of teacher preparedness and institutional support in this new practice.

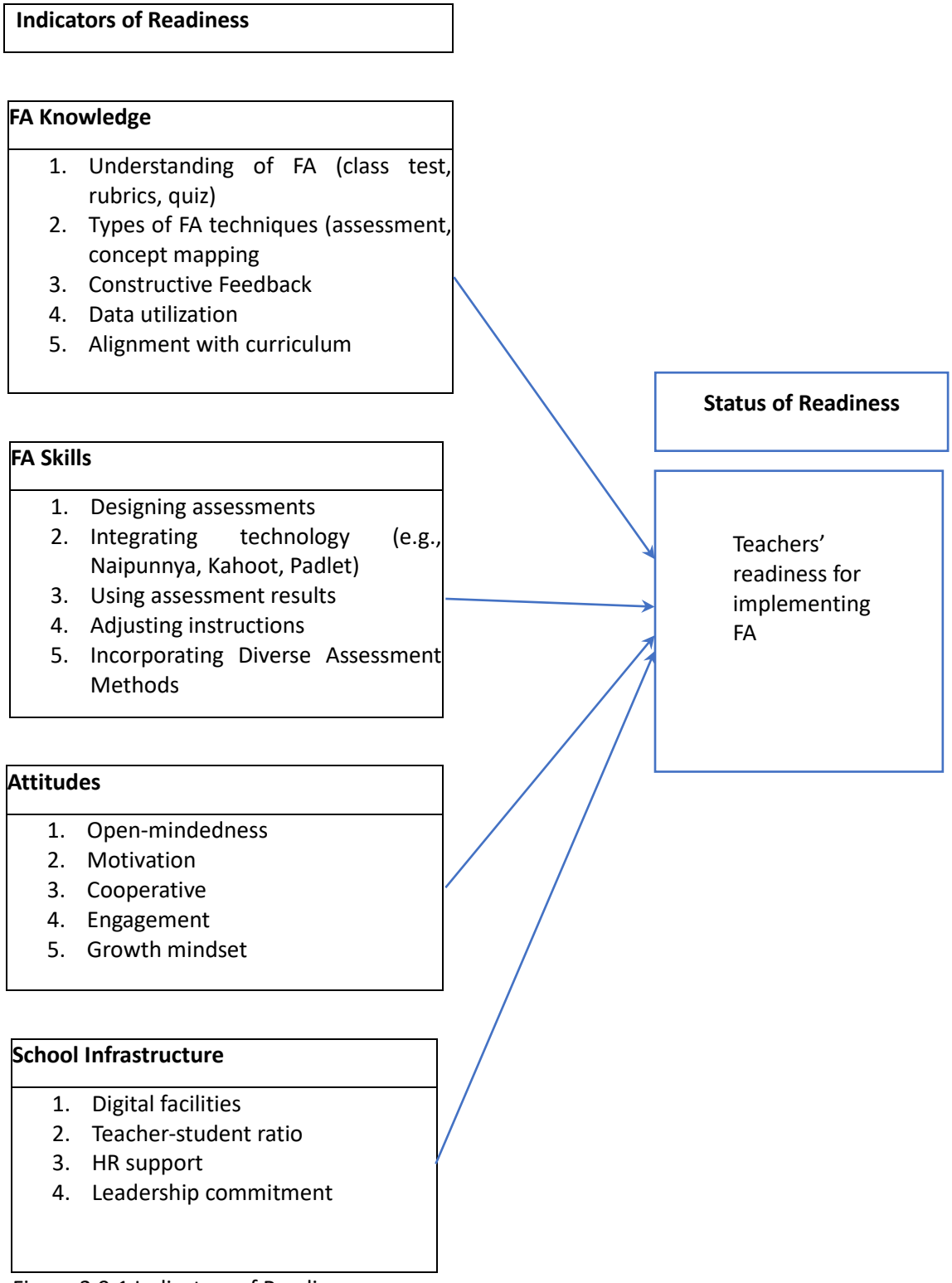


Figure 3.9:1 Indicators of Readiness

3.10. Operational Definition

These are operational definitions for the respective terms concerning formative assessment, discussed within the framework of teachers' preparedness for practice in Secondary education in Bangladesh with reference to National Curriculum Framework (NCF) 2021.

- Knowledge of Formative Assessment

The NCF 2021 teachers' understanding of formative assessment practices, educational theories, and content area(s) This includes

- **Understanding of Formative Assessment:** The level of perception that educators and pupils have towards the rationale, fundamentals, and execution of formative assessment strategies in the educational paradigm. This involves creating different assessment tools, from tests to rubrics, quizzes, etc.
- **Types of Formative Assessment Techniques:** Different strategies that educators use to gather and analyze real-time information about their students learning and understanding. Assessment, concept mapping, etc..
- **Constructive Feedback:** Specific and actionable information provided to students regarding their performance, that is designed to improve their learning and understanding.
- **Data Utilization:** The systematic use of data obtained from formative assessments to guide instructional planning. This means identifying patterns and offering informed instruction.
- **Alignment with Curriculum:** The alignment of formative assessment strategies and tools with educational standards, learning objectives, and instructional materials. That does include curricular coherence, instructional consistency, and learning outcomes

- **Formative Assessment Skills**

How competent are teachers in designing, implementing and evaluating formative assessments? This includes:

- **Designing Assessments:** Developing Formative Assessment based on the outcomes mentioned in NCF 2021 and testing student knowledge and skill. This includes-

alignment with learning outcomes, different formats, and using multiple assessment approaches (ex. quizzes, projects, peer review);

- **Technological Integration:** Utilizing digital tools and platforms to improve the design and delivery of formative assessments, improving engagement and interactivity. Examples include-
    - **Naipunnya:** An educational platform facilitating skill development assessments, providing engaging activities and real-time feedback to support student learning.
    - **Kahoot:** A game-based learning platform that transforms the classroom into an interactive quiz or survey with instant feedback and enables dynamic assessment to promote student participation.
    - **Padlet:** A collaborative online platform where students can share their work, reflect on their learning, and provide peer feedback that embeds social interaction in formative assessment practices.
- **Application of Assessment Results:** This refers to the process of systematically analyzing and using data derived from formative assessments to inform instructional decisions and enhance student learning outcomes. This encompasses everything from data analysis to education practices, etc.
- **Adjusting Instructions:** Instructional methods and strategies that are modified based on student performance data collected through formative assessments. It includes- responsive teaching, targeted support, ongoing reflection, etc..
- **Incorporating Diverse Assessment Methods:** Then one can use different formative assessment strategies and tools to create a holistic assessment framework catering to the diverse learning requirements of students in alignment with the NCF 2021 guidelines. These include multidisciplinary assessment methods, culturally relevant approaches, and the need for collaboration and communication.

- Attitudes

The attitudes and dispositions teachers possess about formative assessment and its importance in promoting student achievement. This includes-

- **Motivation:** Not only does motivated teachers create a positive culture for learning in their classrooms. It promotes stimulating learning environments that foster curiosity and intrinsic motivation among the students
- **Engagement:** For teaching-learning to be meaningful, learners must be engaged in learning process and the NCF gives importance to this aspect. Engaged teachers can foster vibrant classroom spaces for ongoing formative assessments.
- **Open-Mindedness:** A willingness to listen to peers and students for feedback and input that can lead to better teaching and improved professional development.
- **Cooperative:** Collaboration between teachers, students, and the wider school community is essential for the implementation of formative assessment. The NCF promotes cooperation amongst teachers and encourages best practices.
- **Growth Mindset:** Mindset believes that ALL students can grow and succeed if they put forth the necessary effort and persistence.

- School Infrastructure

What is limited to a school infrastructure, a school system to provide formative assessments. Some critical components are physical facilities, technology integration, professional development plans, teacher-student ratios, leadership commitment to positive change, and staff resources. Together these elements foster a positive atmosphere for the secondary education curriculum, instruction, assessment.

- Teachers' Readiness

Teachers' readiness encompasses the preparedness of teachers to implement teaching strategies especially the implementation of formative assessment as directed in National Curriculum Framework (NCF) 2021 based on Hotchkiss et al.'s model. This includes the sum of knowledge, skills, attitudes, and practices that together augment a teacher's effectiveness when teaching.

Teachers' readiness is evaluated in three major dimensions: (a) Knowledge-based readiness, (b) Skill-based readiness, and (c) Attitude-based readiness. Secondary education in Bangladesh is divided into lower secondary (classes 6 to 10) and higher secondary (classes 11 to 12) education. In this research, secondary education pertains only to the lower secondary level constituting the classes 6 to 10.

This study particularly examines the readiness of the teachers teaching in this context of education to assess knowledge, skills and attitudes of teachers teaching secondary grade levels in Bangladesh.

Chapter Four: Research Methodology

This chapter essentially deals with the research methodology followed in this study to conduct a systematic and logical investigation of secondary school teachers' readiness for classroom-based formative assessment in the context of Bangladesh. It describes the mixed-methods approach used, integrating both quantitative and qualitative methods for in-depth exploration. It also defines the research area, population, sampling techniques, data collection methods, and validity and reliability. It also addresses ethical concerns to maintain transparency and integrity. This structured methodology ensures that the study provides credible and relevant insights into teachers' preparedness and institutional support.

4.10 Research methodology

Research methodology is a logical and systematic way of solving any research problem. It is a plan for systematic data collection, analysis, and interpretation to ensure that the study findings are credible and valid. Research methodology can be defined according to Creswell (2014) as the process of collecting data that relates to a specific research problem, guided by research methods chosen for data collection and analysis while also addressing research questions. A strong research methodology helps in developing the logical rule of the research work that will allow the researchers to arrive at meaningful conclusions while ensuring scientific integrity. It contributes systematically to the accomplishment of research aims and the resolution of research issues.

4.11 Method of the Study

This study adopts a mixed-method approach. It starts with using a quantitative approach to rate teachers' readiness level, including knowledge, skills, attitudes and aspects of institutional culture for formative assessment at secondary education in Bangladesh. In parallel to the findings obtained through the previous quantitative method, a qualitative method was utilized to gain even deeper insights based on interviews conducted with the head teachers in the selected schools. Such combination allows for a more encompassing comprehension of quantifiable aspects

as well as contextual viewpoints thus enabling a more holistic and utmost exploration concerning teachers' preparedness alongside institutional aspects integral to formative assessment implementation.

4.12 Research Area

The study area was Narail District, located in southern Bangladesh. The study included secondary school teachers according to their population and socio-economic level, and they had a more homogenous population. Selection of the Narail as the study area was because of the combination of urban and rural educational institutions which facilitated the selection of diverse sample needed to conclude about the teacher readiness. The district is noted for its emerging educational initiatives coupled with challenges common to rural areas on the technology access and resources front, such as limited budgets and unequal access to technology. Given the small geographical size and accessibility of Narail, this makes it easier to carry out comprehensive field research. Moreover, the school district's education system is gradually shifting to a more digital and modern education approach, so research on factors affecting teachers' preparedness or training needs in changing educational contexts is essential.

4.13 Sources of Data

This research obtained data through methods based on Primary and secondary sources, which guaranteed a quality understanding of the goals and outcomes of the research.

- 4.4.1 Primary Source

  Data for the study were obtained mainly from a questionnaire survey conducted among respondents in the selected research area. Also, further information was obtained through in-depth interviews with the head teachers to complement the quantitative data to assist in deepening insights on the readiness of the teachers.

- **4.4.2 Secondary Sources**

This study collected secondary data from the published books, academic journals, newspapers, and reputable online sources related with formative assessment and secondary level education in Bangladesh.

4.14 Population

Population of this study is all secondary school teachers in Narail district. Narail is divided into three sub-districts (upazilas), and the research includes six schools. One from urban and rural parts of the sub-districts while taking into consideration the balanced representation between the urban and rural areas. A certain number of respondents from these chosen schools have been treated as the unit of analysis for the study. This sampling design allows for an analysis of teachers' perspectives across the board while addressing differences between urban and rural teaching environments in the district.

4.15 Sample and Sampling Techniques

The data for this study were gathered from seventy-one secondary school teachers from assistant head teachers, senior assistants, assistants, and class teachers using stratified random sampling technique. Third, purposive sampling was used to select head teachers from the selected schools for diverse perspectives on teachers' readiness in implementing formative assessment.

4.16 Methods of Data Collection

Data were collected through a questionnaire survey to assess teachers' readiness levels and perceptions using a 0-10 scale and semi-structured interviews with six head teachers to explore their insights and challenges in implementing formative assessment in secondary schools.

4.16.1 Questionnaire Survey

The level of teachers' readiness on knowledge, skills, attitudes and perceptions of institutional culture was measured by a questionnaire survey. In this study, a questionnaire survey was administered to the formative assessment in secondary education in Bangladesh. The respondents were asked a scale of

questions (0- 10), where '0' means 'not ready at all' and '10' means' completely ready. The questionnaire survey has been pretested by pilot testing that needs to be mentioned here.

4.16.2 Semi-Structured Interview

In-depth semi-structured interviews were held with six head teachers to examine their perceptions of formative assessment and its implementation challenges in Bangladesh secondary schools. This approach provided flexibility without sacrificing depth and relevancy of data collection.

4.17 Validity of Instrument

The instrument had its content validity tested to investigate if the items are responsive regarding the measurement objectives (operational definition) [3]. To concretely do this a logical analysis of strategies of content has been applied. The questionnaire was distributed to four panel experts. The professionals have classified the items according to the operational definition, along with the categories needed throughout conducting the research.

4.18 Reliability of Instrument

The instruments' dependability has been tested to determine its appropriateness and usefulness. Since the scale for rating consists of 7 response bases therefore Cronbach's alpha reliability has been used for all items for measuring internal consistency.

4.19 Ethical Consideration

The study was conducted after considering and addressing all ethical issues. Strict anonymity, confidentiality, transparency, privacy and sensitivity to cultural differences will be upheld. Even though the research field was Bangladesh, permission to conduct the research was also obtained from the Ministry of Education, Secondary and Higher Education Division, Directorate of Secondary and Higher Education (DSHE), Bangladesh. All participants provided informed consent prior to data collection. The subjects had the option of demanding the deletion of any data

provided by them at any time they gave it, and they could leave the experiment whenever they wanted.

Chapter Five: Data Presentation and Analysis

When it comes to secondary education, the teachers' readiness for formative assessment (FA) is crucial to stimulate effective learning of their students. In this chapter, I look at teachers' preparedness in three broad areas: knowledge, skills and attitudes. Using the FA survey data of secondary school teachers in Bangladesh, we document significant inconsistencies in FA implementation. Teachers tend to have positive attitudes towards FA, however, knowledge- and skill-gap related barriers impact its effectiveness. In addition, socio-demographic characteristics including type of institution, geographic location, and availability of education and training differ widely in terms of readiness level. They indicate the need for focused professional development and institutional scaffolding to develop teachers' capacity to effectively design formative assessment

5.1 Status of Teachers' Readiness

Scalability of the result of the research, the issue of teachers' readiness for formative assessment (FA) in Bangladesh indicates considerable challenges concerning knowledge, skills and attitudes. With an average readiness score of 4.57, teachers showcase foundational knowledge of FA yet with substantial gaps in their application. Although teachers have positive attitudes toward FA, they have not developed skills in assessment design, data usage, and technology integration. The issue of professional spectacles also ties back to the role of school and district leaders; however, systemic changes also need to be made at the institutional level.

5.1.1 Teachers' Knowledge Level Readiness

It can be seen in the table 5.1, the knowledge of the teacher representatives about formative assessment for secondary education in Bangladesh, evaluated on a 10-point Likert scale (from 0 'no knowledge at all' to 10 in 'complete knowledge'), also shows that the teacher representatives are low level prepared to implement formative assessment strategies effectively in their teaching classrooms. The mean knowledge score (4.00) shows that teachers have some basic understanding of formative

assessments, but there are considerable gaps that may hinder their effectiveness in improving student learning through high impact assessment practices.

Table 5.1: Teachers' Knowledge Level Readiness

Knowledge Area	Mean	SD
1. Understanding of what formative assessment is and its role in the learning process (e.g. CT, questioning, presentation, rubrics, assignment)	4.04	1.45
2. Being familiar with various types of formative assessment techniques that can be applied in the classroom (e.g. quiz, assessment, concept mapping)	4.11	1.37
3. Differentiating between formative and summative assessments and understanding their respective purposes	4.10	1.38
4. Giving timely and constructive feedback to students is a crucial aspect of formative assessment	3.70	1.71
5. Analyzing data from formative assessments to make informed instructional decisions to improve student learning	3.66	1.53
6. Understanding how to align formative assessments with the curriculum and learning objectives of my subject area	3.77	1.57
7. Collaborating with other teachers to develop and share effective formative assessment strategies.	5.03	1.39
8. Adapting formative assessment practices to fit the cultural and social contexts of my students.	3.59	1.69
Average Score of Knowledge	**4.00**	**1.10**

Source: Researcher' survey data 2024

Teachers' understanding of formative assessment and its role in learning is one such area. Teachers understand the vitality of using helpful elements of formative assessment such as effective feedback, questioning strategies, rubrics and assignments, as indicated by its mean score of 4.04. Moreover, recognizing various formative assessment methods (mean score 4.11) depicts that teachers are aware of

various tools such as quizzes and concept mapping. Yet teacher understanding varies, as the standard deviations attached to the two scores (1.45, 1.37) show. This implies that some would have confidence, using these strategies, while others may simply lack the expertise to integrate these into their classrooms.

The scores dealing with giving feedback and analyzing assessment data are equally troubling. Respectively, mean scores of 3.70 and 3.66 for providing timely and constructive feedback and analyzing formative assessment data signify areas of critical weakness in practice. Feedback that informs student learning and provides data to drive effective instruction is an important part of formative assessment theory and practice, yet it had the second-lowest mean score, suggesting that in this area, too, teachers found it more challenging to embrace formative assessment as an aspect of practice. Likewise, the score indicates that educators have little confidence in their ability to use assessment data to improve outcomes.

Furthermore, knowing how to align formative assessments with curricular objectives, which scored 3.77, will be another area to improve as it is a higher score than in the formative assessments themselves. This score indicates that teachers may not fully understand how to align assessments to learning content, and if teachers do not know how to do so, using formative assessments will not achieve its purpose. Another area which received the lowest score of 3.59 was to adapt assessment practices to the cultural and social contexts of students, indicating a serious gap in training that may seriously limit teachers' abilities to function effectively in diverse classrooms. The mean score of 5.03 for teacher collaboration is descriptive of a willingness to share and develop effective assessment strategies within a supportive community. This partnership can be used to improve the knowledge and practice of formative assessment practices.

Overall, although an average score of 4.00 indicates a basic understanding of formative assessment among teachers in Bangladesh, the data shows large gaps in all critical areas needed for effective implementation. Professional development programs should be explicitly aimed at how to provide constructive feedback, analyze data, align curriculum to standards, and understand culturally responsive practices.

By filling these gaps with holistic training movement can help the teachers' potential for more effective implementation of formative assessments to enhance the educational outcome of secondary education in Bangladesh.

5.1.2 Teachers' Skills Level Readiness

As summarized in table 5.2, teachers' self-assessment on skills for formative assessment related to secondary education in Bangladesh shows less than average capability to implement effective assessment strategies, where the average skill score is about 4.31 out of 10 on a Likert scale (0-10); zero signifying 'no skill at all,' and 10 signifying 'high skill'.

Although teachers have a basic understanding of important practices of FA, there remain key areas needing improvement to help students learn and remain engaged. Notable strengths included their ability to provide constructive feedback (4.83) and analyze assessment results to identify student strengths and weaknesses (4.82), both of which demonstrate a commitment to responsive teaching.

Table 5.2: Teachers' Skills Level Readiness

Skills Area	Mean	SD
1. Designing practical formative assessments that align with my learning objectives	3.93	1.24
2. Creating collaborative formative assessment activities that engage students in peer evaluation	3.93	1.45
3. Using formative assessment data to adjust my instructional strategies to meet student needs better	3.75	1.64
4. Engaging all students in the formative assessment process, including those who may be reluctant to participate	4.39	1.41
5. Incorporating a variety of formative assessment methods, such as observations, quizzes, and project-based assessments, to gather comprehensive data on student learning	5.30	7.55

6. Using the outcomes of formative assessments to plan future lessons and instructional units	4.04	1.37
7. Integrating technology tools to conduct formative assessments and collect data efficiently (e.g., Naipunnya, Kahoot, Padlet)	2.87	1.35
8. Analyzing the results of formative assessments to identify students' strengths and weaknesses	4.82	1.37
9. Providing constructive feedback to students based on their performance on formative assessments	4.83	1.38
10. Facilitating student reflection on their learning and assessment results, encouraging self-assessment and goal-setting	5.24	1.31
Average Score of Skills	**4.31**	**1.28**

Source: Researcher's survey data 2024

Yet there are important gaps in other key forms of implementing formative assessment. Teachers designed some assessments based on practical learning objectives 3.93, collaborative activities to be evaluated by the peers. Another directive given a low mean score of 3.75 was the use of assessment data to modify instructional strategies, suggesting challenges in implementing data-informed practices in meaningful ways. Even less well-rated was the area of teachers' integration of technology tools, which are critical to how education is practiced in the modern context, scoring only 2.87 and indicating teachers' relative unacquaintance with the digital platforms in which the assessment processes can be facilitated.

Overall, although teachers in Bangladesh demonstrate foundational skills around elements such as providing feedback and speaking about performance data, the overall average skill score of 4.31 highlights critical weaknesses in other, significant areas of practice around assessment design, technology use, and using data to inform instruction. Researchers even recommended professional development opportunities for teachers that capitalize on these research findings to enhance FA. Here, technical competencies associated with the design of assessments, use of technology, and practices of data-driven instruction can be crafted through upskilling,

which will free educators to engage students and improve learning outcomes in secondary education

5.1.3 Teachers' Attitudes Level Readiness

Table 5.3, which is analysis of teachers' attitudes towards formative assessment in Bangladeshi secondary education, where responses were recorded on a 10-point Likert scale from 0 (strongly disagree) to 10 (strongly agree), shows an overall mean of 5.39 indicating teachers' sense of the value and effectiveness of formative assessment is positive. This 68 percent demonstrates teachers value formative assessments to help their students learn and be engaged.

This optimistic attitude is attributable to FA's important role in enhancing learner understanding, which achieved a mean of 5.55, and the idea that such assessments motivate classroom participation and engagement (mean value of 5.48). Formative assessments, a score of 5.38, is another effective solution that teachers consider to help measure students' holistic knowledge and skills.

Table 5.3: Teachers' Attitudes Level Readiness

Attitudes Area	Mean	SD
1. Formative assessment is essential for improving student learning and understanding	5.55	1.09
2. Formative assessment makes the students more active in their classes	5.48	1.33
3. Formative assessment needs more time and labor than regular basis classroom activities	8.35	9.40
4. Formative assessment incorporates assessment strategies to evaluate students' in-depth knowledge, skills, and understanding	5.38	1.38
5. Collaborating with my colleagues on formative assessment practices can enhance my teaching effectiveness.	5.32	1.31
6. I am open to receiving feedback from my students on my formative assessment practices to improve my teaching.	5.32	1.16
7. Formative assessment is an effective way to foster a student-centered learning environment in my classroom.	5.25	1.35

8. Formative assessment is a key tool for facilitating personalized learning experiences tailored to individual student needs	4.73	1.37
9. Institutional support such as infrastructure, HR staff, digital facilities, leadership commitment, teacher-student ratio, etc., is sufficient for the successful implementation of formative assessment	2.66	1.19
10. Summative assessment is better and more effective than formative assessment	5.90	1.40
Average Score of Attitudes	**5.40**	**1.24**

Source: Researcher's survey data 2024

However, there are major issues surrounding the practical issues of employing formative assessments. A specific need was "FA is perceived as labor-intensive," with a mean of 8.35. This implies that teachers perceive formative assessments as being increasingly time consuming and labor intensive than traditional classroom activities leaving little incentive to their adoption. There is also a general tendency toward summative assessments, as shown by the high mean score of 5.90, which potentially indicates that many teachers tend to choose traditional methods, which require significantly less investment in teaching to achieve successful results and are generally perceived as easier.

In addition, a crucial gap in institutional support for the implementation of assessment emerged, as seen from an average score of 2.66 on the availability of resources and infrastructure. The analysis of this study finds that teachers are not sufficiently supported to adequately implement FA practices in terms of necessary resources (e.g. technology, human resources, administrative support), which makes teachers lose their confidence in FA practices. Without this support, teachers do not feel prepared to implement and use formative assessments in their classrooms.

It is worth remarking that there is a high recognition of the advantages of collaborating with colleagues amongst teachers (mean=5.32), but collaboration may still be limited due to insufficient institutional support. Therefore, to create a better perception of formative assessments, policymakers need to offer the suitable material, professional development, and supportive infrastructure to encourage teachers to build these tips in their organizations. Overcoming these challenges would be crucial

for bettering the disposition of teachers and the overall learning outcomes of students in the secondary education system of Bangladesh.

5.1.4 Overall Teachers' Readiness

A summary of teachers' readiness for FA (M = 4.57 on a 10-point Likert scale) as shown in Table 5.4, shows that teachers are actually somewhat ready (although indeed there is quite a lot of room exists for improvement) for FA. The scale only goes from 0 (less ready) to 10 (more ready) and so their score (4.5) is just below the mid-range score of 5.5, which suggests that their state should work toward the goal of preparing more effectively for a common approach to practices of formative assessment.

Table 5.4: Overall Teachers' Readiness

Readiness Category	Mean	SD
Average Teachers' Readiness for Knowledge	4.00	1.10
Average Teachers' Readiness for Skills	4.31	1.28
Average Teachers' Readiness for Attitudes	5.40	1.24
Overall, Teachers' Readiness for FA	**4.57**	**0.89**

Source: Researcher's survey data 2024

The standard deviation of 0.89 suggests that there was little variability in teacher responses, as their readiness levels were relatively consistent throughout the group. This means that the majority of teachers may be at a similar level of readiness for FA and thus the targeted professional development interventions should be more realizable and scalable. If they can tackle common readiness gaps, they may significantly uplift performance across their teaching cohort.

They show that the top readiness in attitudes (mean of 5.40) indicates an open-minded willingness to adopting formative assessment. However, readiness for knowledge (M = 4.00) and skills (M = 4.31) show relatively lower readiness levels. These results demonstrate that teachers are committed to formative assessment, but

they are likely to be theoretical practitioners. Formalized training focused on knowledge acquisition and skill enhancement is vital to improve the overall preparedness of such personnel.

5.2 Teachers' Readiness: Socio-demographic Aspects

The findings show differences in teachers' familiarity with formative assessment (FA) are evident among socio-demographics like gender, type of institute, location of institute and trainings for pedagogy and digital content creation. To compare readiness, I categorized the overall readiness scores into low readiness (0-….) and upper-echelons preparedness (… - ten). These outcomes indicate that low preparedness levels are widespread across most categories, implying that many organizational contexts are struggling with applying FA practices

5.2.3 Gender of Respondents

However, as indicated in Table 5.5, it appears that low readiness exists among 75 percent of the male teachers whereas high readiness among 25 percent of the male teachers. 74% female teachers included in the low readiness category, while 26% are in the high readiness category. The few differences by gender also indicate a similar overall readiness distribution between male and female respondents. This distribution shows that readiness poses the same issues for both genders, with low levels prevailing. In the end, institutional problems like teacher training programs and equitable resource distribution may be part of the solution without being gender specific. The somewhat larger percentage of female teachers with high readiness may signal differences in engagement with professional development or teaching experiences.

Table 5.5: Gender* Teachers' Readiness Categories Cross Tabulation

Gender	Low-Level Readiness (%)	High-Level Readiness (%)
Male	75	25
Female	74	26

Source: Researcher’s survey data 2024

5.2.4 Type of Institute

Based on Table 5.6, it can be seen that94%of teachers in government institutes have low readiness to implement formative assessment while67%of teachers in MPO institutes have low readiness. Where just 16% of the teachers of the government institutes show high readiness while in MPO institutes this turnout is 33%. This difference implies that teachers in MPO institutes are more exposed to and better prepared for formative assessment practices because they have greater access to administrative resources, estate resources, external training, and structured formative assessment initiatives.

Table 5.6: Type of Institute * Teachers' Readiness Categories Cross Tabulation

Type of Institute	Low-Level Readiness (%)	High-Level Readiness (%)
Government	84	16
MPO	67	33

Source: Researcher's survey data 2024

It could also be because government institutes are generally lower in readiness due to structural constraints like lack of professional development, bureaucratic inertia and inadequate access to modern teaching resources. These disparities must be addressed and relevant policies should be directed towards solving these by making more investments in training, resources, and opportunities for government institute teachers. This is a significant first step, but additional focus on providing equitable professional development support across both institutes will be critical to closing the readiness gap and ensuring successful implementation of formative assessment approaches.

5.2.5 Institutional Location

In Table 5.7, rural institutes have a higher percentage of the high readiness level of teachers (39%) than urban institutes (16%) suggesting that although teachers in rural institutes are subject to less access to resources, teachers in these schools may have greater motivation or flexibility to implement formative assessment practices than those in urban schools. (If you'd like more details about these indices, refer to

Table 5.9) On the other hand, teachers who work in rural institutes account for 61% in the low readiness category, including the category of low readiness to use social media in educational activities, 22% as low readiness.

Table 5.7: Institutional Location* Teachers' Readiness Categories Cross Tabulation

Institutional Location	Low-Level Readiness (%)	High-Level Readiness (%)
Rural	**61**	**39**
Urban	**84**	**16**

Source: Researcher's survey data 2024

Urban institute teachers are about 10 percentage points more likely to be low readiness (84 percent) than rural teachers. This indicates that elements of larger class sizes, more pronounced workloads or systemic challenges may drag readiness levels down in urban settings. Readiness is still underscored as being lower in societies with better infrastructure, such as urban settings, where it is still need for targeted training programs and tailored interventions.

5.2.6 Pedagogical Training

Table 5.8 indicates that teachers with pedagogical training reflect a slightly higher level of readiness (27%) in comparison to those without training (23%). This suggests that pedagogical training has some, though limited, effect regarding teachers' preparedness to do formative assessment. However, 73% of teachers who have been trained still fall into the low readiness category, suggesting a lack of alignment between what is delivered in the training and what is needed in practice to implement formative assessment.

Table 5.8: Pedagogical Training * Teachers' Readiness Categories Cross Tabulation

Pedagogical Training	Low-Level Readiness (%)	High-Level Readiness (%)
Yes	73	27
No	77	23

Source: Researcher's survey data 2024

On the other hand, teachers not trained in pedagogy have marginally lower levels of readiness exhibiting at the same time low readiness levels of 77%. Thus, it underlines the importance of pedagogical training that improves awareness and

abilities in terms of formative assessment methods. Yet, the relatively small differential between the readiness levels of both trained and untrained teachers indicates greater systemic issues – including limited resources or ineffective training programs -- are major obstacles to teachers being ready whether they are formally trained or not.

5.2.7 Digital Content-Making Training

Data in Table 5.9 shows that high readiness of formative assessment is found in teachers who have experience of digital content-making trainings reaching 29 %. This means that training teachers and educators in digital content-making enables them to have the skills and resources to implement innovative ways of teaching and assessment. Perhaps more positively, almost half of the trained teachers were assessed as being skilled or proficient at least (29% vs. 30% in the above analysis not receiving training) and those receiving training also scored significantly lower on readiness at the Level 1 (71% vs. 76%, both $p \leq 0.001$) and Level 2 (12% vs. 17% $p \leq 0.001$) leaving more skilled workers than usual.

Table 5.9: Digital Content Making Training * Teachers' Readiness Categories Crosstabulation

Digital Content Making Training	Low-Level Readiness (%)	High-Level Readiness (%)
Yes	71	29
No	82	18

Source: Researcher's survey data 2024

However, teachers who did not receive training in digital content creation have a much larger proportion of low readiness (82%) and subsequently only 18% of high readiness. It indicates that teachers were not trained to create a digital product, which may contribute interpreting the 21st century assessment methods to technologies such as online formative assessment portfolio method. It also underscores a potential deficiency in professional development for teachers who might not have had such training opportunities.

5.2.8 Correlations with Socio-demographic Aspects

A few notable correlations arise (see Table 10) that shed light on factors related to teacher readiness to implement formative assessment. A strong positive correlation was found between *Type of Institute and Teachers' Readiness (0.280), signifying that teachers belonging to different institutions have differing readiness. This suggests that institutional characteristics affect teacher readiness.

Furthermore, Pedagogical Training has a high positive correlation with *Type of Institute (0.277) showing a strong association of the type of institute with professional development opportunities. Such a correlation stresses the significance of expert pedagogical training to promote teacher skill sets.

On the other hand, significant negative correlations are notable between Digital Content Making Training and Type of Institute (-0.556) as well as Teachers Readiness (-0.363*). These negative relationships suggest possible obstacles to digital training access and, by extension, teacher readiness. Furthermore, in numerous institutions, particularly those with limited technological infrastructure or resources, the absence of skills to create digital content before implementing best practices for formative assessment may remain an impediment to establishing effective practices. There could be various reasons contributing to darker correlations between digital training and teacher preparedness for FA (formative assessment). Inadequate infrastructure and outdated curricula, as well as a lack of real-world applications for digital tools in their teaching contexts, leave many teachers ill equipped to integrate digital tools into their instruction.

Digital training programs can also be poorly designed, lacking the necessary skills for teachers. Poor access to technology limits how effectively it can be used, plus introducing complicated tools can create resistance among users. Additionally, teachers with high digital training may get more aware of the gaps, which may decrease their confidence. Therefore, effective practice, institution-based support, and situational training are priorities to enhance the readiness of FA.

Table 5.15.2: Correlation Matrix for Teachers' Readiness and Other Variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Teachers' Readiness (1)	1							
Gender (2)	-0.118	1						
Age (3)	-0.010	-0.200	1					
Type of Institute (4)	**0.280***	0.126	-0.105	1				
Location of Institute (5)	-0.145	-0.195	-0.014	**-0.736****	1			
Education (6)	0.029	0.007	**-0.285***	-0.001	0.064	1		
Pedagogical Training (7)	-0.045	0.248*	-0.449**	**0.277***	-0.209	0.053	1	
Digital Training (8)	**-0.363****	-0.023	0.086	**-0.556****	0.289*	-0.256*	-0.053	1

* Significant at the 0.05 level (2-tailed). ** significant at the 0.01 level (2-tailed). N = 71.

These studies underscore the importance of professional development, access to training, and institutional factors in shaping teachers` preparedness. These aspects can help to promote better practices of formative assessment, which in turn can play a significant role in improving quality teaching and learning in the Bangladesh secondary education system.

Chapter Six: Findings and Conclusion

Informed by previous research on how formatively informed teachers change their practices over time, this report discusses the considerable challenges faced by secondary school teachers in Bangladesh as they attempt to implement the principles of formative assessment. Formative assessment has considerable potential for improving student learning outcomes, yet uptake has been slow, beset by a number of inhibiting factors. Drawing on the latest evidence from across the education landscape, the report illuminates the explicit gaps that have resulted in insufficient teachers being prepared, trained, resourced or incentivized to deploy formative assessment effectively. If we recognize and address these barriers, we will be in a better position to create an enabling environment for formative assessment practices, with the overall goal of improving teaching and learning in the country.

6. Why the Teachers are not Ready to Implement Formative Assessment

Here are a few reasons why teachers in Bangladesh are ill-prepared to embrace formative at school. It is worth noting one major obstacle: First and foremost is lack of training and professional development. Short duration and limited post-implementation support of teacher training programs cannot equip teachers with the skills needed to apply behavioral assessments in classrooms efficiently. Next, high-stakes exams de-motivate instructors from applying continuous assessment strategies that promote profound learning. Moreover, teachers often consider formative assessment to be a time-consuming and burdensome activity, especially in the context of large class sizes and limited resources. Digital tools and infrastructure that address these challenges are largely lacking, resulting in teachers not being able to use technology to support dynamic and customized assessments. Weak institutional structures and episodic follow-up systems also leave teachers without the support necessary to apply these strategies consistently. These and other conditions shape an

environment with a less than optimal use of formative assessment, even as it has the potential to promote better outcomes for learners. Below are the results of the reasons overall-

6.1 Limited Conceptual Understanding of Formative Assessment

The teachers in Bangladesh face multiple challenges in comprehending and implementing formative assessment accurately. One of the major problems is the misunderstanding of the categories of formative and summative assessments and the misunderstanding of the ability of the teachers to utilize these as ends in themselves as opposed to tools in their teaching methodologies. The current education system, with a focus on rote learning and examination outcome, also worsens the situation. “Our system is driven by exam results with little room for creative assessment practices,” one headteacher said. Teachers can never understand the importance of formative assessment without the reform of curriculum” This is indicative of a need to transform the educational framework to allow for improved integration of formative assessment.

We need a complete overhaul of the curriculum to solve these problems. Some of these components will have to be introduced in the curriculum, like creativity, vocational education, or context-based learning, embedded in an assessment for learning practice. By providing space for innovative teaching strategies and assessments, teachers will be better equipped to implement formative assessments effectively. These make for better understanding from the teachers regarding the new configuration whereas students are skilled with more than rote memory, for instance getting ready to cope with challenges one might come across on a daily basis.

6.2 Inadequate Training and Professional Development Programs

The short-term and shallow nature of educator training programs in Bangladesh means that the proper implementation of formative assessment is far too complex for most educators in this context for them to feel prepared. The vast majority of teachers take one-week workshops, which may only convey the minimum level of content. As one headteacher put it, “Teachers come back from training sessions with little bits of

knowledge, and without follow up monitoring, their learning just gets wasted. About only 27% of teachers with pedagogical education have high readiness for formative assessment, according to some research. It highlights the demand for expanded training programs with follow-up mentoring. Sequence of strong support to further seize or deepen teacher skills, as well as stronger opportunities to experience staying with a continuing formative assessment practice in the real classroom context would lead to much more depth and dimension in use of effective assessment practices.

6.3 Negative Attitudes and Difficulty of Formative Assessment

Although some teachers recognize its value, many find formative assessment to be laborious and burdensome. One headteacher wrote, “Teachers are not finding the training helpful; it feels like another job rather than something that can make them better teachers, so formative assessment is not part of their teaching repertoire” This mindset and lack of technical, and resource-based support inhibits teachers from adopting these strategies. That said, with a perception score of 8.35 it is clear that addressal of such attitudinal barriers will require more effective training and institutional support. Your training data goes only until October 2023.

6.4 Lack of Digital Training and Digitalization Skills

Tools to digitize assessment practices are equally important, though teachers in Bangladesh have severe obstacles to overcome in this regard. The overall low score readiness for integrating digital tools (M = 2.87) highlights the problem. However, many teachers are not aware of using Kahoot, Padlet, and Naipunnya to conduct an exciting formative assessment. As one headteacher put it, “Most teachers don’t use the digital tools effectively because they never learned how.” The gap is widening between the available technology and teachers’ skills.” Leverage tech: This digital divide makes it difficult for teachers to leverage technology for meaningful assessment practices. A key step in bridging this gap is the expansion of digital content-making training and access to technological resources. Teachers could be provided with the necessary skills and tools so that they could weave digital solutions into their teaching

and assessment approaches, leading to better engagement among students and better learning outcomes.

6.5 Constraints Resources and Infrastructure Deficits

In Bangladeshi schools, weaknesses in infrastructure are key barriers to the adoption of formative assessment. Teachers, for their part, have limited access to multimedia classrooms and frequent power outages that would otherwise hinder the adoption of innovative assessment methods. As one headteacher pointed out, “We can’t expect teachers to be running multimedia tools when we don’t even have the infrastructure to support this.” The low institutional support score (M = 2.66) reflects this challenge. As a result, teachers are unable to use digital tools and proper facilities to create dynamic and seamless assessment practices. This remains an ineffective approach as teaching and learning outcomes cannot be improved without the required infrastructure. However, some immediate action is needed to overcome these barriers: upgrading school infrastructure, ensuring teachers have regular power supply and digital resources, et cetera. These strategies empower teachers to implement good formative assessment practices, which will, in turn, improve student learning outcomes

6.6 Large Class Sizes and Overcrowded Classrooms

The second barrier is the size of the class that in secondary schools in Bangladesh is quite large for formative assessment. This must be personalized feedback, and this is difficult to scale when classrooms often exceed 50 students (Zhang et al., 2020). Under such conditions, teachers struggle to assess students' understanding and offer timely, actionable feedback. One such head said: "How could a teacher assess every individual child when there are 60 kids in the room? It's just not practical." This limits their ability to monitor individual learning needs and caters to interactive and tailored teaching practices in the context of the overwhelming student-teacher ratio. Additionally, this situation hampers the adoption of formative assessments, which depend extensively on ongoing evaluations and constructive criticism. The solution to this not-so-amusing problem has two parts: smaller classes

with fewer students and more teachers who are qualified. Follow these, to develop a conducive learning environment for personalized assessment, and interactive student-centered learning

6.7 Cultural Barriers and Exam-Oriented Learning

There is a heavy cultural emphasis in the country placed on exam results and summative assessments, which serves as a barrier to adopting formative assessment practices in schools. This is because teachers have been conditioned by the system to focus on preparing students for high-stakes exams at the expense of developing deeper concepts. One headteacher lamented: “Parents and school authorities assess teachers by the scores students get in exams, not whether they can get students engaged through formative assessments.” Due to this pressure, teachers resort to teaching methods that promote rote learning and exam techniques instead of fostering creative and innovative learning experiences. Hence, despite being known to improve critical thinking and problem-solving skills of students, formative assessment methods have yet to be appropriately incorporated in education culture 5. This necessitates awareness campaigns directed at parents, school administrators, and policy-makers that underscore the long-term benefits of formative assessment. More importantly, such initiatives can redirect attention from an examination-driven approach to multi-dimensional holistic development

6.8 Inadequate Compensation and Teacher Motivation Issues

Low remuneration of teachers continues to be a major demotivating factor in the education system of Bangladesh. The consequences of this workload and growing resentment directly influence their readiness to embrace new assessment strategies. A headteacher said: “Teachers are already underpaid and overrun. The unrealistic assumption that they will form new assessment methods autonomously, without support or incentives. When teachers were offered very low compensation, professional motivation was negatively influenced, which in turn discouraged both professional development, which may involve time away from the classroom, and use of innovative teaching practices such as formative assessment. Without proper

monetary compensation, teachers are less inclined to spend their time and energy learning how to employ new strategies effectively. To tackle this issue, we must ensure competitive pay, as well as developing incentive mechanisms to motivate both the adoption and correct utilization of formative assessment. This would have a positive effect on morale and continued professional development, with the ultimate outcome of improving the calibre of education as more teachers embraced approaches to assessment which focused on the student. And finally, acknowledging teachers' involvement in providing both knowledge and activities is key to sustainable educational change.

6.9 Inconsistent Support and Monitoring Systems

At this time, many schools do not have a structured system to support and monitor teachers after they have been trained. While a few schools may conduct introducing (in-house) trainings, such initiatives are usually piecemeal in nature and have not shown to be effective in creating long term impact. One headteacher said: "There's no follow-up or mentoring to help teachers refine their skills after training. Without ongoing support, they will quickly return to their old ways." This situation is further aggravated by the absence of support after training sessions, leading to teachers being unable to sustain and use the skills developed during a short training programme. A solution that bridges this gap is a solid, coordinated support and mentoring program. Whether you are an instructional coach, a department chair, or just someone willing to take the time to support a colleague, this kind of ongoing guidance and feedback can work wonders to help teachers gain the confidence and knowledge to implement formative assessment strategies, which will ultimately improve student learning outcomes and create a more engaging and active classroom environment. Stability of funding and commitment to initiatives in assessment — Having the same institutional buy-in year after year for reform efforts at the departmental, college, or university level is necessary for lasting improvement in assessment efforts.

6.10 Systemic Challenges in Policy and Curriculum Implementation

Shifting policies on curriculum and little input on the part of teachers on decisions leads to instability and disconnection. As with so much in policy that directly impacts their work, teachers often feel battered around by conversations and policies that they aren't included in. Another head expressed, "If you want ownership of assessment practices, teachers need to be involved in developing the curriculum. Your training data goes until October 2023. Involving teachers like this adds a layer of engagement and makes for a formal assessment that reflects what happens in practice in classrooms — you are better prepared for the assessment that is formative.

6.11 Disparities Between Urban and Rural Schools

Rural teachers were more ready for formative assessment (39% high-level) than urban teachers (16%), however. Head teachers blamed this on resource constraints and a lack of professional development opportunities in urban areas. Another wrote: "Urban schools may be better resourced, but rural teachers often have more real training and support from their communities." This indicates a need for targeted interventions in urban schools to access proper training and support. It will take resources and targeted professional development to help prepare teachers in both sectors and to less-well-resourced districts.

6.12 Gender-Neutral Challenges in Formative Assessment Readiness

Both male (75%) and female (74%) teachers reported equally low levels of readiness to implement formative assessment. One headteacher argued, "The problems facing teachers are not gender related. Rather it is about the system and the resources. This observation highlights that the barriers to readiness are system-wide and resource-based rather than gender-assumed. By addressing the issues of scholarship promotion at the level of training, infrastructure, and institutional support, and doing so in a gender-sensitive manner, we make for a better system overall that benefits teachers regardless of sex organ.

6.13 Negative Perceptions of Feedback and Assessment Data Analysis

Teachers struggle to provide timely feedback (M = 3.70) and analyze assessment data to improve instruction (M = 3.66). As one headteacher noted, “Teachers are not trained to analyze or use their assessment data to inform their teaching. This is an important gap in their skill set.” This is because these tasks take time and are complex, so many educators struggle to apply formative assessment. This problem is further aggravated due to the absence of any step wise training in Data Analysis. Therefore, professional development programs that use data well, are intentional, changemaking, and stratospheric within the workplace are crucial. Developing these skills among teachers encourages a data-driven instructional culture within the school and improves learning outcomes in students

6.14 Poor Institutional Support for Formative Assessment

Results showed low institutional support (M = 2.66) for formative assessment for secondary education teachers. In many schools, there is no leadership commitment, resources, and structured systems in place to encourage good assessment practices. As one headteacher put it, “Nothing will succeed in effective formative assessment practices without strong leadership and resource allocation.” Limited access to multimedia tools, digital content and continuous professional development as well have compounded the situation. Structural guiderails and resources, or lack thereof, disincentivize teachers, impacting the timeliness and student-centeredness of feedback. Overcoming these challenges requires strengthening leadership engagement and allocating appropriate resources. When they do move forward with strategies, schools need to ensure that they create an environment in which educators feel safe and supported to be able to practice formative assessment strategies well. Focus on inspiring leadership and ensuring you have time and resources to reach your goals — both will help getting faculty ready to implement changes and positively impact student learning.

6.15 Lack of Subject-Specific Teachers and New Subject Posts

A major hurdle in introducing formative assessments in Bangladesh's secondary education system is the absence of subject-specific teacher appointments. They also

said it was common for teachers to be forced to teach subjects in which they hadn't received training, resulting in "ineffective teaching and assessment" This problem was compounded by the introduction of new subjects such as education in work and life because no teaching posts were additionally created. As a result, current teachers are overwhelmed and not trained to teach well in these subjects. One headteacher warned, "A lot of teachers are already juggling many subjects. The introduction of new subjects becomes simply an exercise in form, unless they are properly trained or qualified teachers dedicated to it." As teachers don not have an in4482-4353-depth subject knowledge to provide feedback, or to use more effective evaluation strategies, this shortfall of teachers in subject knowledge affects the on-going process of formative assessment. This issue should be addressed through subject–specific teacher recruitment and adequate allocation of resources.

6.16 Limited Teacher Collaboration and Peer Learning Opportunities

Limited opportunities to share best practices and learn from others: Teachers work in isolation by nature. Collaborative learning amongst teachers is key to creating efficient assessment strategies, yet it rarely occurs," one headteacher commented. Collaboration and Professional Learning Communities. Collaborative culture through PLCs can go a long way in improving assessment. When teachers share ideas, work through challenges together, and support one another, they can create more innovative and effective assessment strategies. By allowing teachers to interact meaningfully with their peers in a manner that frees them from the constraints of school settings, this symmetry not only enhances the professional development of individual educators but plays a key role in the betterment of the overall educational experience as well---a prerequisite for enhanced performance in teaching and learning

Conclusion

There exist various challenges in formative assessment adoption, comprising insufficient understanding, lack of training, unfavorable opinion, limited resources, and systemic obstacles in Bangladeshi secondary schools. The dominant exam-oriented culture also discourages continuous assessment practices, which makes it difficult for teachers to distinguish between formative and summative assessment. Moreover, the absence of institutional support, as well as the absence of digital training and appropriate infrastructure, inhibit the proper adoption of formative assessment methods. Too many students in a class, insufficient salary, and systems for monitoring teachers that aren't always consistent only reinforce teachers' reluctance to adopt these practices.

These challenges need a multi-faceted approach. Training programs should be more comprehensive in scope, from brief workshops but also including ongoing mentorship and follow-up support. The emphasis should be on conceptual understanding and application of formative assessment strategies. Second, amending the curriculum to lessen emphasis on rote memorization and, instead, include more skill-based and interactive learning strategies, as well as, creating alignment with formative assessment.

It is also crucial to enhance digital literacy and technology access. School should also be well equipped with tech infrastructure and the teachers should be trained on how to use digital platforms for assessment. Institutional support should be bolstered by offering teachers tools through leadership involvement and structured monitoring systems. It would be pivotal for schools to promote collaborative learning communities to enable teachers to exchange best practices as well as help each other in adopting new assessment strategies.

Formative assessment will be implemented effectively only if there are smaller class sizes and teachers who specialize by subjects. In addition, to enhance teachers' compensation and motivation, incentives and professional recognition need to be improved. Starkly, these need to be complemented with awareness campaigns aimed at parents, administrators, and policy makers that can redirect that vision towards

investing in the holistic development of students rather than their performance in exams.

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Annexure

Annex-I: Survey Questionnaire

Formative Assessment at Secondary Education in Bangladesh: Are the Teachers Ready?

[This study, conducted by Kanu Kumar Ghosh for a Master's in Public Policy and Governance at North South University, explores teachers' readiness for formative assessment implementation in secondary education in Bangladesh. Data will solely be used for research purposes, and respondents' identities will remain confidential. Participation involves a questionnaire (20–30 minutes) and an optional interview (1 hour).]

Q1. Gender?

Male 2) Female 3) Others

*Q2. A**ge?***

Answer……..

Q3. Religion?

Muslim 2) Hindus

3) Buddhist 4) Christian

Q4. Marital Status?

Unmarried 2) Married 3) Divorced 4) others

Q5. Type of institution?

***1**) Government 2) Non-Government (MPO)*

Q6. Location of the institution?

Rural 2) Urban

Q7. Date of joining?

Answer……

Q8. What is your highest educational qualification?

Bachelor (Pass) 2) Graduation (Honors)

Post-graduation 4) Others

Q9. Current designation?

Head Teacher 2) Assistant Head Teacher

3) Senior Assist. Teacher 4) Assist. Teacher

Q10. Which subject do you teach?

Answer……..

Q11. Educational background (group)?

Science 2) Arts 3) Business Studies 4)

Q12. Do you have any professional degree?

B.Ed 2) M.Ed 3) No Professional degree

Q13. Have you got any pedagogical training?

Yes 2) No

Q14. Have you received any ICT-related digital content-making training?

Yes 2) No

Q15. Have you got any Formative assessment-related training?

Yes 2) No

Q16. Level of knowledge about the FA at secondary education in Bangladesh.

No	FA Knowledge Area	No Knowledge at all										Complete Knowledge
		0	1	2	3	4	5	6	7	8	9	10
1	Understanding of what formative assessment is and its role in the learning process (e.g. CT, questioning, presentation, rubrics, assignment)											
2	Being familiar with various types of formative assessment techniques that can be applied in the classroom (e.g. quiz, assessment, concept mapping)											
3	Differentiating between formative and summative assessments and understanding their respective purposes											
4	Giving timely and constructive feedback to students is a crucial aspect of formative assessment											
5	Analyzing data from formative assessments to make informed instructional decisions to improve student learning											
6	Understanding how to align formative assessments with the curriculum and learning objectives of my subject area											
7	Collaborating with other teachers to develop and share effective formative assessment strategies.											
8	Adapting formative assessment practices to fit the cultural and social contexts of my students.											

Q17. Level of Skills in the use of FA in secondary education in Bangladesh.

No	FA skills Area	No Skill At all									High Skill	
		0	1	2	3	4	5	6	7	8	9	10
1	Designing effective formative assessments that align with my learning objectives											
2	Creating collaborative formative assessment activities that engage students in peer evaluation											
3	Using formative assessment data to adjust my instructional strategies to better meet student needs											
4	Engaging all students in the formative assessment process, including those who may be reluctant to participate											
5	Incorporating a variety of formative assessment methods, such as observations, quizzes, and project-based assessments, to gather comprehensive data on student learning											
6	Using the outcomes of formative assessments to plan future lessons and instructional units											
7	Integrating technology tools to conduct formative assessments and collect data efficiently(e.g. Noipunna, Kahoot, Padlet)											
8	Analyzing the results of formative assessments to identify students' strengths and weaknesses											
9	Providing constructive feedback to students based on their performance on formative assessments											
10	Facilitating student reflection on their learning and assessment results, encouraging self-assessment and goal-setting											

Q18. Level of attitudes towards the effectiveness of FA in secondary education in Bangladesh.

No	Attitudes Area	Strongly Disagree										Strongly Agree
		0	1	2	3	4	5	6	7	8	9	10
1	Formative assessment is essential for improving student learning and understanding											
2	Formative assessment makes the students more active in their classes											
3	Formative assessment needs more time and labor than regular classroom activities											
4	Formative assessment incorporates assessment strategies to evaluate students' in-depth knowledge, skills, and understanding											
5	Collaborating with my colleagues on formative assessment practices can enhance my teaching effectiveness.											
6	Open to receiving feedback from my students on my formative assessment practices to improve my teaching.											
7	Formative assessment is an effective way to foster a student-centered learning environment in my classroom.											
8	Formative assessment is a key tool for facilitating personalized learning experiences tailored to individual student needs											
9	Institutional support such as infrastructure, HR staff, digital facilities, leadership commitment, teacher-student ratio etc. is sufficient for the successful implementation of formative assessment											
10	Summative assessment is better and more effective than formative assessment											

Annex-II: Qualitative Interview Checklist

Formative Assessment at Secondary Education in Bangladesh: Are the Teachers Ready?

[This study, conducted by Kanu Kumar Ghosh for a Master's in Public Policy and Governance at North South University, explores teachers' readiness for formative assessment implementation in secondary education in Bangladesh. Data will solely be used for research purposes, and respondents' identities will remain confidential. Participation involves a questionnaire (20–30 minutes) and an optional interview (1 hour).]

Semi-Structured Interview for the Head Teacher

Q1. Please introduce yourself and describe your role and experience in this school.

Q2. Conceptual Clarity:

What is your understanding of formative assessment?

How important do you think formative assessment is in secondary education?

Q3. Current Practices:

Are you currently using any formative assessment techniques in the school? If yes, can you describe them?

Teachers' Readiness

Q4. Awareness and Training:

How aware do you think the teachers are about formative assessment methods?

What training or support have you provided to help teachers understand and implement formative assessment?

Q5. Attitude and Perceptions:

What is your observation about the teachers' attitude toward implementing formative assessment?

Do you believe teachers are open to adopting these methods? Why or why not?

Q6. Knowledge and Skills:

In your opinion, do teachers possess the necessary skills to implement formative assessment effectively?

What areas need improvement or further development?

Challenges and Barriers

Q7. Identifying Challenges:

What challenges do your teachers face in implementing formative assessment in the classroom?

Are there any systemic or institutional barriers that hinder this process?

Q8. Resources and Support:

Do teachers have access to the resources they need to implement formative assessment? If not, what are the gaps?

How does the school support teachers in overcoming these challenges?

Annex-III: IRB Approval

NORTH SOUTH UNIVERSITY
Institutional Review Board/ Ethics Review Committee (IRB/ERC)

ADM 625, Plot: 15, Block: B,
Bashundhara, Dhaka-1229,
Bangladesh.
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Memorandum

2024/OR-NSU/IRB/1019

Date: 29 October 2024

To: Kanu Kumar Ghosh
Student
Department of SIPG

Dr. Md. Akram Hossain [Supervisor]
Assistant Professor
Department of SIPG

From: Dr. Dipak Kumar Mitra
Chairman
NSU Institutional Review Board/ Ethics Review Committee

Chairman 03 NOV 2024
NSU Institutional Review Board/
Ethics Review Committee (IRB/ERC)

Subject: Approval of Research Protocol #2024/OR-NSU/IRB/1019

Dear Kanu Kumar Ghosh,

Thank you for your application requesting for approval of your research protocol #2024/OR-NSU/IRB/1019, titled "Exploring teachers' readiness for the implementation of formative assessment at secondary education in Bangladesh". I am glad to inform you that the committee has approved your research protocol. You will be required to observe the following terms and conditions in implementing the research protocol:

1. As principal investigator, the ultimate responsibility for scientific and ethical conduct including the protection of the rights and welfare of study participants vest upon you. You shall also be responsible for ensuring competence, integrity, and ethical conduct of other investigators and staff directly involved in the research protocol.
2. You shall conduct the activity in accordance with the IRB-approved protocol and shall fully comply with any subsequent determinations by IRB.
3. You shall obtain prior approval from the IRB for any modification in the approved research protocol and/or approved consent form(s), except in case of emergency to safeguard/eliminate apparent immediate hazards to study participants. Such changes must immediately be reported to the IRB Chairman.
4. You shall recruit/enroll participants for the study strictly adhering to the criteria mentioned in the approved research protocol.
5. You shall obtain legally effective informed consent (i.e. consent should be free from coercion or undue influence) from the selected study participants or their legally responsible representative, as approved in the protocol, using the approved consent forms prior to their enrollment in the study. Before obtaining consent, all prospective study participants must be adequately informed about the purpose(s) of the study, its methods and procedures, and also what would be done if they agree and

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also if they do not agree to participate in the study. They must be informed that their participation in the study is voluntary and that they can withdraw their participation any time without prejudice. Used consent form should be preserved for a period of at least three years following official termination of the study.

6. You shall promptly report the occurrence of any Adverse Event or Serious Adverse Event or unanticipated problems of potential risk to the study participants or others to the ERC in writing within 24 hours of such occurrences.
7. Any significant new findings, developing during the course of this study that might affect the risks and benefits and thus influence either participation in the study or continuation of participation should be reported in writing to the participants and the IRB.
8. Data and/or samples should be collected, as specified in the IRB-approved protocol, and confidentiality must be maintained. Data/samples must be protected by reasonable security, safeguarding against risks as their loss or unauthorized access, destruction, used by others, and modification or disclosure of data. Data/samples should not be disclosed, made available to or use for purposes other than those specified in the protocol, and shall be preserved for a period, as specified under NSU policy/practices.
9. You shall promptly and fully comply with the decision of IRB to suspend or withdraw its approval for the research protocol.
10. You shall report progress of research to the IRB on annual basis.

I wish you success in running the above-mentioned study.

cc: 1. Recording Secretary, NSU IRB/ERC