

# Designing blended learning programmes which impact teaching quality and learning outcomes

## Introduction

This policy brief is based upon research into Anonde Ghonit Shikhi (AGS), a nationwide teacher professional development programme to ‘make learning math fun’ in Bangladesh. AGS is the most popular Teacher Professional Development (TPD) course on Muktopaath, the government’s Bangla-language e-learning platform. Over 180,000 primary teachers have completed the initial online course. Nine online modules target grade 1–2 math skills. Each module contains three or more numeracy activities, explained through animated videos, and finishes with a quiz. Completion of the online course entitles teachers to participate in a week of face-to-face training. There is no follow-on support or monitoring for implementation in schools. AGS’s approach to blended learning for TPD is aligned with Bangladesh’s ‘Blended Education Framework for All’ (Akturazzaman and Chowdhury, 2022) and is common to government led TPD programmes across Bangladesh. Mobile phones are by far the most common way for people to access the internet in Bangladesh and most teachers accessed AGS on their phones. Hence, AGS is an example of mobile learning and of blended learning for TPD.

Mobile Learning for the Empowerment of Marginalized Mathematics Educators (3Mpower) was a research project led by The Open University (UK) in partnership with the Institute of Education and Research (University of Dhaka, Bangladesh). 3MPower was funded through the EdTech Hub (2021–2025). The project sought to understand both the processes and outcomes of the AGS intervention among teachers and schools serving marginalised rural communities. 3MPower was designed and carried out in collaboration with education decision-makers and with rural educators and education officers.

The findings and recommendations have widespread significance for future blended TPD programmes in Bangladesh and also address ‘high potential evidence-gaps’ in the global evidence-base—concerning the experiences and outcomes of technology-enhanced TPD among teachers and learners in marginalized rural communities.

As part of the thinking for the next Primary Education Development Programme (PEDP5), the Directorate of Primary Education (DPE) seeks to further develop their



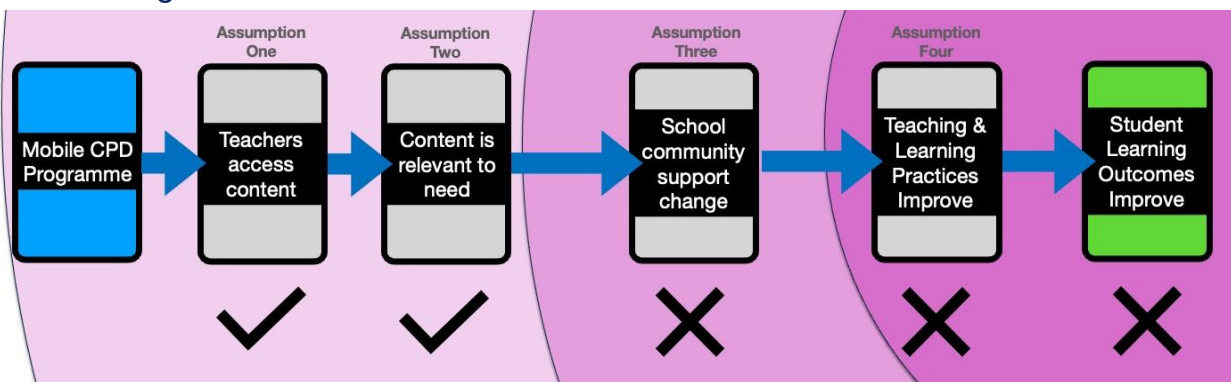
approach to blended learning for TPD, moving from ‘one-off’ online and face-to-face training to a more integrated and applied approach which better supports professional learning in classrooms and schools. The 3Mpower research provides critical insights which may contribute to the development of new and more effective approaches to blended learning for TPD, in Bangladesh and internationally.

## The problem

Key findings from 3Mpower were that:

- 1) In almost all schools, teachers completed the online professional development programme using their mobile phones; most teachers liked the course content and thought it was helpful.
- 2) In most schools (estimated >90%), few teachers put the activities into practice or continued to use them.
- 3) In some schools (estimated <10%), the school community encouraged practical exploration of the activities in teaching; here ongoing use led to some improvements in teaching and learning

In most schools, the current approach to blended learning for teacher development—as exemplified by AGS—did not lead to sustained changes in teaching quality or learning outcomes. Whether and how the school community supported change (‘assumption 3’ in our theory of change, below) appears to be the critical factor determining whether teachers can make ongoing improvements to teaching and learning.



Improvements in teaching and learning were mostly found in the minority of schools where the community supported changes—where inspirational headteachers put the activities from the TPD programme into practice themselves, and encouraged other teachers to work together to do the same.



The current design of blended learning TPD programmes in Bangladesh does little to foster support for implementation in most schools, and therefore has limited impact and reduced value for money.

What kind of changes in the design of blended learning TPD programmes in Bangladesh, like Anonde Ghonit Shikhi (AGS), would:

- Encourage practical exploration of activities from the TPD programme in more schools?
- Enable headteachers to lead professional learning and foster cultures of collaboration?
- Improve impacts on teaching and learning and the value-for-money of the TPD programme?

## The context

- Over 400,000 primary teachers in Bangladesh have completed free or low-cost courses on Muktopaath—a government-sponsored Bangla-language eLearning platform.
- Anonde Ghonit Shikhi (AGS) is one of the most popular Teacher Professional Development (TPD) courses, completed by over 180,000 teachers. AGS’s aim is to make learning math fun.
- AGS follows the current model of ‘blended learning’ in Bangladesh, where one-off online learning is used as an introduction to one-off face-to-face training.

Currently, teachers first complete a short online training programme. The certificate of completion from this makes the teachers eligible for one-off face-to-face training, which might happen several months later. After completing a week of face-to-face training, teachers return to school. Without any ongoing support or monitoring, most teachers are unable to sustain any attempts to put the training into practice—on their own, without support from their school—and any impacts on teaching are lost.

3MPower is the first at-scale evaluation of impacts from any of the current style of blended-learning TPD programmes in Bangladesh. It focuses on the experiences and outcomes of blended learning among teachers and learners in schools serving marginalised rural communities across the country.



## The evidence from 3MPower Research, Bangladesh

### Introduction to 3MPower research

- Research Question: How are primary numeracy teachers using mobile learning for teacher development in rural schools and, in what ways does this change learning and teaching?
- Methods: large-scale, mixed-methods, multi-phase design—testing assumptions linking teachers’ participation in blended-learning teacher professional development (TPD) – Anonde Ghonit Shikhi (AGS) – with improvements in teaching and learning in math, in rural schools.
- Sample: Over 400 teachers and 2,000 learners in rural primary schools actively participated in the research and were sampled from ten marginalised rural upazilas across four geographic regions—Chittagong Hill Tracts, Hoar, Coastal & Char. A further 1,300 teachers and headteachers responded to surveys.

### Summary findings

1. In almost all schools, teachers completed the online professional development course using their mobile phones. Most teachers liked the course content and thought it was helpful.
2. In most schools (estimated >90%), few if any teachers continued to put the activities into practice—so there was little if any sustained impact on teaching or learning. See policy brief [below](#), Towards a pedagogic framework for Teacher Professional Development through blended learning
3. In some schools (estimated <10%), the school community encouraged practical exploration of the activities. Ongoing use led to significant improvements in teaching and learning. See policy brief [below](#), Blended learning for teacher development: Evidence of impact.
4. The costs of providing online training were <1% of the costs of face-to-face training

### Reflections on the findings

- Without support for implementation in school, there is little impact on teaching and learning from the current blended learning approach to TPD in Bangladesh.
- Global literature indicates school level support—encouragement to participate from school leaders, collaboration between teachers, for practical exploration in teaching— is crucial for any TPD, not just blended learning.

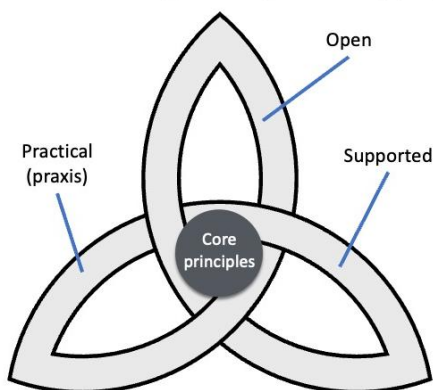


- The current approach to blended learning in Bangladesh, exemplified in AGS, does not include school-level support and treats the ‘online’, ‘face-to-face’ and ‘practical application’ aspects of TPD as one-off events, taking place in different times and places.

Informed by decades of research and practice in at-scale and technology-enhanced TPD, and by the global research evidence-base, we call for a re-imagining of blended learning TPD in Bangladesh—as an integrated and ongoing process, where each professional development act draws upon the online or printed resources, support for learning from others, and teachers’ professional practice. This re-imagining is consistent with, and an enhancement to, the Blended Education Framework for All (Aktaruzzaman and Chowdhury, 2022) in Bangladesh.

We propose three aspects of practice-based supported open learning (practical SOL), which work together as part of a greater whole:

#### Practice-based Supported Open Learning (SOL)



- **Open learning**—the open educational resources (digital or print materials) which expose teachers to new knowledge, ideas and practices to explore in their teaching.
- **Supported learning**—the support teachers receive for their professional learning, from others (peers or head-teachers, education officers, mentors, coaches or facilitators) in person in their schools, in informal spaces, through in-house training, or in upazila workshops.
- **Practical learning**—the teachers’ action in, and reflection upon, teaching with the purpose of improving students’ learning. Practical learning is the intentional combination of well-informed thought and action to bring about change for good.

These three aspects are all part of one continuous process—they are not three separate activities or phases of learning. All three come together in each professional development act. Each aspect feeds into and draws upon the other two.

#### Example

In a professional development meeting, in school or between schools, teachers come together to help each other learn (supported learning). They look at the professional development resources together online, on their phones, or in print



(open learning). They practice making any teaching and learning materials they need and how to use these in the classroom activities promoted by the programme (practical learning). Later, when preparing to use the activity with learners, teachers remind themselves of the activities by looking again at the materials (open learning). They think about how to adapt the activity for their learners. They teach the lesson and later reflect upon what they learned from the experience (practical learning). The next time they meet with their colleagues, they share their practical experiences and reflections (supported learning), before starting the process again.

|                |                                                                                                                   |
|----------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Read</b>    | an activity.                                                                                                      |
| <b>Plan</b>    | how you will use the activity.                                                                                    |
| <b>Do</b>      | the activity with your learners.                                                                                  |
| <b>Reflect</b> | on what learners learned from doing the activity.                                                                 |
|                | <ul style="list-style-type: none"> <li>• What worked well?</li> <li>• What would you change next time?</li> </ul> |
| <b>Share</b>   | your experiences with your colleagues.                                                                            |



No one aspect—open learning, supported learning, practical learning—makes sense except in relation to the others. All three aspects are mutually interdependent and inter-twined. (See example ‘IGATE Implementation Guide’ p2 & p10, below).

## Implications—designing stronger blended learning programmes for TPD

### 1) Strengthening the links between Open Learning and Practical Learning

*1a) Providing better scaffolding for ‘practical learning’ within the open learning materials*

- Give clear directions about putting the activities into practice in their classrooms with their learners, guiding teachers through cycles of action and reflection (e.g., [IGATE Numeracy Module 1](#) pages 1-3).

Research evidence: “We work hard to ensure that students gain the necessary skills for maths education and we use AGS modules regularly to help with this” (teacher, Coastal Area).



- Provide more activities, giving teachers a comprehensive set of activities to teach foundation numeracy skills, within a ‘structured pedagogy’ approach (see Smart Buys, below) (e.g. IGATE numeracy [module 1](#), [module 2](#), [module 3](#), [module 4](#), [module 5](#), [module 6](#)).
- Provide teachers with diagnostic assessment tools and encourage them to teach by foundation skills ability not grade level (teaching at the right level) (e.g., [FLN Hub formative assessments](#))

In our school, continuous assessment has been initiated from the first grade, and students are regularly assessed in this method in every class. As a result, I believe that students are achieving learning outcomes in an appropriate manner (headteacher, Char area).

Students are regularly evaluated in every class. This helps them learn in a good way. (teacher, Char area)

- Fit to realities of classroom – manageable with large classes and short lesson time (e.g., [TESSA Working with Large Classes](#)).

*1b) Bringing reflections from ‘practical learning’ back into the open learning environment*

- Bring examples of teachers' reflections on their practical learning back into the open learning materials, (see examples of ‘teachers talking’ in the [IGATE implementation guide](#). These are quotations from teachers talking about how they put the activities into practice, what issues they faced, how they responded, and what they learned from this).

‘Moreover, the integration of the AGS course in the classroom has resulted in a significant transformation in students' learning experiences. They are now engaging with mathematics with increased interest and joy, leading to a noticeable boost in their attentiveness during class’. (Teacher, Coastal Area).

‘The AGS course has played a pivotal role in overcoming these challenges. The shift towards a more enjoyable and accessible method of teaching mathematics has positively impacted both students and teachers. It was possible because of the



teaching learning methods that we learned from the course'. (Headteacher, Coastal Area).

- Creating opportunities on CPD forum and/or social media for teachers to share their experiences... e.g. Muktopaath, Shikkhok Batayan (Teachers' Portal), WhatsApp, Facebook.

## 2) Strengthening the links between Open Learning and Supported Learning

*2a) Providing better scaffolding for 'supported learning' within the open learning materials*

- Provide clear guidance on how headteachers can help teachers work together to put the professional development activities into practice in their teaching, and to learn from these experiences [e.g. [IGATE implementation guide](#)]. See policy brief below, How can headteachers help teachers put Continuous Professional Development into practice in their schools?
- Include 'prompts' or 'scaffolds' for learning with other colleagues when practicing or teaching using the activities (e.g. 'talk to a colleague about...' or 'think about how your learners responded to this activity and share your thoughts with a colleague').
- Encourage classroom observations by school leaders or by teachers

*2b) Bringing experiences of 'supported learning' back into the open learning environment*

- For example, when the programme is being implemented, use your research and monitoring activities to find and develop case studies of how teachers or headteachers have worked together to put the programme into practice in schools.

"Our headteacher regularly observes our classes" (teacher, Char area)



## Further reading

3MPower (2025) Policy brief: Blended learning for teacher development: Evidence of impact [3Mpower-Mobile Learning for Empowerments of Marginalised Mathematics Educators – EdTech Hub](#)

3MPower (2025) Policy brief: Towards a pedagogic framework for Teacher Professional Development through blended learning [3Mpower-Mobile Learning for Empowerments of Marginalised Mathematics Educators – EdTech Hub](#)

3MPower (2025) Policy brief: How can headteachers help teachers put Continuous Professional Development into practice in their schools? [3Mpower-Mobile Learning for Empowerments of Marginalised Mathematics Educators – EdTech Hub](#)

IGATE (2021) *Implementation Guide for School Heads and Literacy and Numeracy TPD Leads*. Bulawayo. [\[Online\]](#)

Aktaruzzaman, Md. and Chowdhury (2022) 'Blended Education Framework for All: Bridging Developing and Developed Country Education Ecosystems', Commonwealth of Learning [\[Online\]](#). Available at <https://oasis.col.org/server/api/core/bitstreams/dd5e08df-ec0a-4fdc-9de6-6c925da5441c/content> (Accessed 26 March 2025).

GEEAP (2023) [\[Smart Buys\]](#) — Akyeampong, K., Andrabi, T., Banerjee, A., Banerjee, R., Dynarski, S., Glennerster, R., Grantham-McGregor, S., Muralidharan, K., Piper, B., Ruto, S., Saavedra, J., Schmelkes, S. and Yoshikawa, H. (2023) Cost-effective approaches to improve global learning. What does recent evidence tell us are 'Smart Buys' for improving learning in low- and middle-income countries? Recommendations from the Global Education Advisory Panel (GEEAP)., FCDO, the World Bank, UNICEF, and USAID [\[Online\]](#).

