POLICY BRIEF 2:

Providing Continuing Professional Development (CPD) using EdTech and remote learning during school closures for educators participating in the Kano Literacy and Maths Accelerator Project, Nigeria

An action-oriented study suggests that a programme of CPD delivered via WhatsApp, Interactive Voice Response (IVR) and text messages (SMS) can increase teacher knowledge and engagement, but more research is required to understand how educators - comprising teachers, student teachers, head teachers and school support officers (SSOs) - are engaging, how this engagement varies for different subjects, sub-groups and genders, and what can be done to overcome the barriers to participation, especially with regards to technology. The home-based learning programme for learners is described in Policy Brief 1.

A head teacher engaged in a KaLMA Maths CPD activity

Background

Before the outbreak of COVID-19 in March 2020, Kano State, Nigeria, was taking measures to address the challenge of equipping children with basic literacy and numeracy skills. As part of their efforts to address this challenge, the Kano State Universal Basic Education Board (SUBEB) and the Federal Ministry of Education (FMoE), together with the British Council and Teaching at the Right Level (TaRL) Africa, and with support from the Foreign, Commonwealth and Development Office (FCDO), launched the Kano Literacy and Mathematics Accelerator (KaLMA) in October 2019. The project aims to build foundational Maths, Hausa, and English literacy skills for 37,000 primary 4 to primary 6 pupils in two full local government areas, Dawakin Tofa and Wudil, in Kano State.

A key component of the KaLMA programme is to train 1081 educators comprising 763 primary teachers, 181 head teachers/ deputy head teachers, 102 student teachers and 35 School Support Officers (SSOs)/ School Mobilisation Officers (SMOs) / Quality Assurance Officers (QAOs) in the KaLMA methodology, comprising Teaching at the Right Level methodology for Maths and Hausa literacy, as well as for English literacy, using the British Council's dual language approach. The face-to-face training of this group of participants took place in December 2019, and the programme launched in the 177 participating schools (96 in Dawakin Tofa and 81 in Wudil) in January 2020. By the end of March 2020, learning in over 107 countries across the world, including Nigeria, had come to a sudden halt as governments implemented national school closures to stem COVID-19 transmission. A consequence of this was that the KaLMA project had to stop its in-school activities and pivot to supporting pupils and teachers through remote delivery.

Kano SUBEB were committed to supporting the CPD of teachers despite school closures and COVID-19 social distancing restrictions. Between May and November 2020, Kano SUBEB worked together with the British Council and TaRL Africa to provide English and Maths CPD to teachers in Wudil and Dawakin Tofa. This involved sharing KaLMA-adapted teaching activities and the British Council's Strengthening English Proficiency (STEP) course designed for Kano State under the FCDO-funded Teacher Development Programme (TDP) that ended in September 2019.[1] The CPD activities could be undertaken at home, through low-tech delivery mechanisms such as text message, automated voice message (AVM) and WhatsApp. The KaLMA team interviewed teachers regularly throughout the delivery of the remote CPD to track engagement and challenges to inform ongoing adaptation and improvement of the offer.

Design and Delivery of the Classroom English CPD Programme

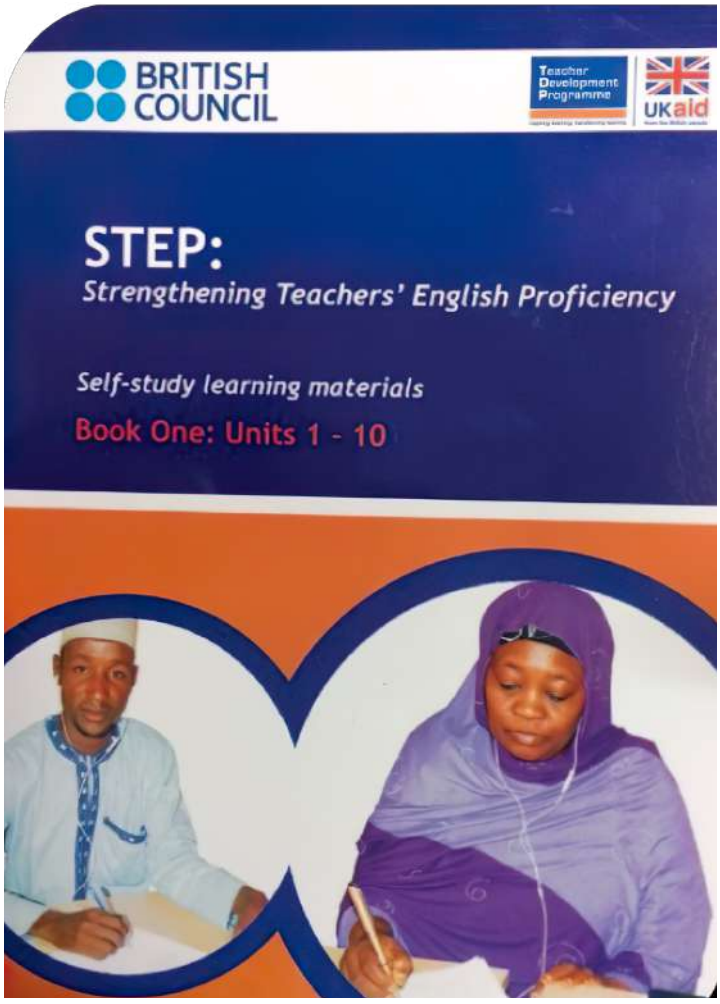
STEP was chosen as the CPD programme to build educators' capacity in English for the following reasons: (i) it was readily available, having been used in the recently ended TDP programme; (ii) it was contextually relevant as it had been designed for Kano State and piloted there too; and, (iii) it has acceptance from the Kano State SUBEB, the Universal Basic Education Commission (UBEC) as well as the National Commission for Colleges of Education (NCCE), which recently incorporated STEP into the Nigerian Colleges of Education pre-service teacher training curriculum.

The aim of STEP is to strengthen teachers' and student teachers' classroom English using self-study

[1] https://www.tdpnigeria.org/in-service/multi-step-materials

resources designed for at the Common European Framework Reference (CEFR) levels A2 (Book 1) and B1 (Book 2)[2]. Materials are based on a functional approach[3] to help teachers develop the skills required to conduct lessons through the medium of English.

The STEP materials, comprising guidelines in Hausa and English, a syllabus, pre-and-post tests, transcripts, audio files and answers, were sent to educators via the WhatsApp platform, and accessed on their own mobile phones. Each unit comprises two hours of self-study, with one book to be completed over a period of 10 weeks. The self-study programme was supported and monitored by Interactive Voice Recorded (IVR) messages in Hausa, on Tuesdays and Fridays each week for Book 1, and by mentoring support on WhatsApp provided by the KaLMA English Lead.



The flowchart below provides the format and sequence of a week's study for the STEP course. The format described was repeated for 10 weeks, after which the participants completed Book 1 and took the post-course test for Book 1. Participants who passed the post-course test with a score of 50% or more, received a certificate and progressed to STEP Book 2, where they followed a further 10 weeks of self-study.

Before the start of STEP: Introduction and baseline test

Sensitisation message about STEP in Hausa and English on WhatsApp and SMS followed by a 20-minute baseline test of 25 items to complete on the Kobo toolkit mobile App. Test to assess progress: mini cloze, multiple choice and gap-fill.

Monday: Distribution of one unit of STEP via WhatsApp

Guidelines for using STEP (in English and Hausa) and course overview (week 1 only), PDF of study unit, transcripts and audio file plus motivational message.

Tuesday: 1st IVR Weekly motivational message, questions and reminder that answers will be sent out on WhatsApp on Friday (in Hausa)

1. Have you started the STEP course? Y/N
2. Are you able to listen to the audio file on your mobile phone? Y/N
3. If not, what is the reason? Select an answer:
   - 3.1 I don't know how to turn up the volume on my phone
   - 3.2 I don't know how to play the audio file on my phone
   - 3.3 Other

[2]https://www.coe.int/en/web/common-european-framework-reference-languages/table-1-cefr-3.3-common-reference-levels-global-scale

[3]English for Teaching: Rethinking teacher proficiency in the classroom ([2]0[1]5), Donald Freeman, Pablo Garcia, Gomez and Anne Burns

Friday: Answers to weekly study unit sent out on WhatsApp, 2nd IVR weekly message and reminder to use the answers to self-correct exercises from unit, revise unit and receipt of unit 2 materials on Monday

1. Have you completed STEP unit 1? Y/N
2. If not, what is the reason for this? Select an answer:
   - 2.1 Did not receive the materials
   - 2.2 Did not have time
   - 2.3 It was too difficult
   - 2.4 Other
3. Do you need help with accessing the audio file on your mobile phone? Y/N

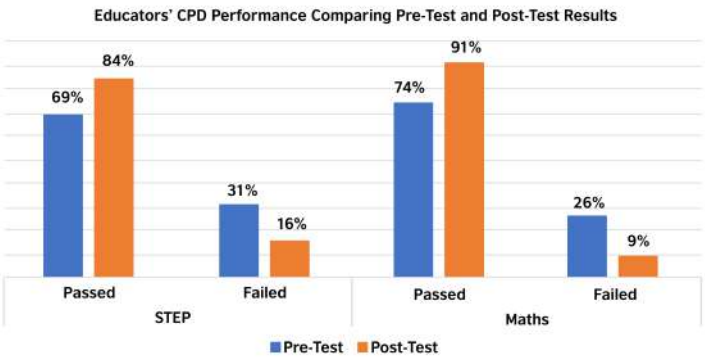
Design and Delivery of the Maths capacity building CPD Programme

The objectives of the Maths CPD programme were twofold: (i) to strengthen teachers' skills in basic Maths operations; and (ii) to refresh their knowledge and application of the TaRL methodology with regards to Maths activities.

The Maths CPD programme provided educators with content via WhatsApp and SMS. Teachers with Smartphones received support through WhatsApp, while those without Smartphones were engaged through SMS. Activity worksheets and guides were shared via WhatsApp followed by a series of activities and questions for educators to follow with the help of a written guide twice a week (every Monday and Thursday). Educators who did not have Smartphones received activity guidelines and exercises to solve via SMS. The Maths CPD programme took educators an estimated time of one hour per week to complete. Educators shared their workbooks on WhatsApp with fellow participants and received responses from peers, with a group leader moderating the flow of responses, plus additional support from the KaLMA Maths Content Lead. Of the 1,051 educators who received Maths support, a sample of 255 of them participating via WhatsApp were tracked. These 255 educators' worksheets were monitored to measure levels of participation and learning progress. The Maths support for educators provided from June to September 2020 covered competency-based activities around number recognition, addition, subtraction, multiplication and division, with a focus on the TaRL methodology delivery. CPD support for Maths in October and November 2020 gradually progressed towards the abstract aspects of multiplication, division and how to handle word problems. Short videos of teaching these concepts were introduced alongside write-ups and pictures, which were shared with educators via WhatsApp.

Tracking Study

Teachers' levels of participation and performance were tracked via the programme's WhatsApp community of practice (CoP) groups, which were deployed for both monitoring and evaluation purposes as well as for pedagogical and peer support reasons. For Maths, the educators' completed worksheets shared on the Maths WhatsApp CoP groups were used as a tracking tool. For the STEP course, teachers answered questions uploaded onto the IVR system to track whether or not they: a) had access to the STEP materials, and b) understood the materials or found them difficult. In addition, for STEP, the WhatsApp CoP groups were regularly monitored by project staff and feedback provided to questions asked on that platform. In both tracking programmes (Maths and STEP), educators were found to have improved significantly from the scores on their pre-course and post-course tests.



The bar chart shows that educators improved in English and Maths, when comparing the pre- and post-test results for both subjects. The percentage point improvement of educators in the two subjects is similar, as 15% of educators improved on their English proficiency skills while 17% improved on their mathematical skills.

Findings

The main findings of the KaLMA remote CPD programmes for Maths and English are provided below:

Finding 1: More educators participated in the maths CPD programme than in the english one
The Maths CPD activities were shared via both the SMS and WhatsApp platforms, reaching a total of 750 out of 763 teachers, whereas the English CPD course was distributed via the WhatsApp platform only, reaching 107 out of 763 teachers. There were three main reasons for the lower number of educators participating in the English CPD programme: (i) a significant number of educators did not have a Smartphone and thus could not access WhatsApp, the platform being used for this content due to the large file sizes entailed; (ii) the time commitment required for following the English course was greater than that for the Maths course (two hours per week for English compared to one hour per week for Maths); (iii) the requirement for teachers to take the STEP pre-test prior to participating in the English course indicates that not all of the 255 available on WhatsApp opted to do so. By contrast, teachers were not required to take a Maths pre-test before participating in the Maths programme. An additional reason for lower participation rates in the English course could have been that some educators found the transcripts in English rather difficult to follow, whereas the Maths CPD content was provided in Hausa, the teachers' own language. During feedback sessions, some participants requested that the STEP material be translated into Hausa.

Finding 2: Deep engagement with the study content observed on whatsapp
There was evidence of deep engagement with the study content on WhatsApp for both Maths and English. For example, photos uploaded by teachers showed how they copied exercises and answers into notebooks. Some educators reported photocopying the materials for future reference, and study tips were also shared by educators on the WhatsApp platform. In addition, study groups were formed by the participants for discussions and idea sharing. The WhatsApp CoP was perceived by participants as a valuable feature of the CPD programme.

Finding 3: Participation in the CPD programmes depended on the provision of data packages
Participating educators were given 2GB worth of data to download the content. Without the provision of data packages, fewer educators would have participated in the CPD programme.

Finding 4: Just over one third of educators had smartphones and were available on whatsapp
Of the 1,081 educators participating in the KaLMA programme (SSOs, head teachers, teachers, and student teachers) only 35% (373) had smartphones and were able to access the WhatsApp platform. Between the sub-groups of educators there were significant differences of Smartphone ownership. Student teachers had the highest ownership of Smartphones (46%), closely followed by SSOs (45%); then teachers (33%) and, finally, head teachers, with 30% Smartphone ownership. While at first sight it may appear counterintuitive that the 'poorest' group (student teachers) had the highest level of Smartphone ownership, this perhaps points to the higher degree of 'tech savviness' of this younger group of educators, along with their willingness to invest in more expensive phones compared to other (older) groups of teacher educators.

Finding 5: It was important to check motivation and understanding at regular intervals
By monitoring the WhatsApp platforms on a regular basis, signs of flagging motivation or challenges for educators were picked up and acted on. One mechanism put in place to address these issues was to organise a WhatsApp webinar for STEP course participants following Unit 5 (midway through STEP Book 1). About 1,051 educators received the Maths activities via SMS and provided feedback through the IVR system. Educators receiving Maths SMS activities requested more engagement than SMS in order to improve their comprehension of the Maths activities. This request will be incorporated into the planning of future Maths CPD programmes.

Finding 6: Female educators had less time for the CPD programmes than their male counterparts
One of the KaLMA surveys found that female educators had less time than their male counterparts to devote to the CPD programmes because they

were responsible for the majority of household duties, especially cooking and childcare. When educators were surveyed about their preferred time for the WhatsApp webinar, female teachers selected 10pm, a time after their domestic responsibilities had ended for the day. The photo (below) captures a female teacher from Wudil juggling domestic work while doing her KaLMA CPD programme.

Limitations

These findings are based on educators who participated through the WhatsApp platform only and not those who received CPD via SMS. As the sample size of 373 represents 35% of the target educators, these findings might not be generalised to the target population as a whole (1,081 educators). However, they do provide useful insights into considerations when designing a home-based CPD programme which relies on technological delivery.

Policy lessons

Educators face several barriers in effectively accessing remotely delivered CPD programmes, key of which are ownership of Smartphones and laptops, internet access, data costs and time available

Policymakers and practitioners need to consider how to support the majority of educators who encounter these barriers. Exploring low tech remote solutions that are not time-bound, can be stored on a device and accessed or shared later, such as printed manuals and SD cards, could help address this issue. Providing educators with loans to purchase Smartphones could also be explored by SUBEB, with the provision of data packages as part of a government-funded CPD programme likewise explored.

Sensitisation efforts in times of change are critical for take-up

Doing things differently requires educators' buy-in. The HBL delivery team quickly learned that without building buy-in around the importance of participating in CPD to build capacity in key subjects, and the shift in responsibility for educators to be accountable for their own CPD rather than relying on the government to always provide this, as was the case pre-COVID, the CPD programme would be seriously hampered. From the first round of surveying, it was observed that educators' experience of self-study on digital platforms was very low. A series of sensitisation efforts boosted not only awareness in the second round but also engagement. Thus, sensitisation and training for educators on the value and use of technology could increase participation in online CPD. The data from this study suggests that it is not only affordability that prevents educators from having Smartphones, as evidenced by the finding that student teachers (who have the lowest incomes of the educator groups) had the highest percentage of Smartphone ownership while head teachers had the lowest. This finding suggests that student teachers are willing to invest more of their income in technology than the other groups of educators.

Feedback mechanisms to identify technology snags and adapt content are key for continued improvement

KaLMA's tracking exercise enabled the identification of technology snags (such as symbols replacing certain letters in a text message on certain phones) and the gathering of feedback on the kinds of content that educators need to support their CPD. For policymakers and practitioners engaging in remote CPD programmes, it will be key to incorporate some kind of feedback mechanism to allow for ongoing adaptation and improvement.

Engagement with CPD resources on the WhatsApp platform can be deep

While the percentage of educators who had Smartphones and were able to access WhatsApp was limited (35%) those who did engage on this platform demonstrated deep engagement with the materials. There was significant collaboration through peer support, feedback and focussed discussions. Participants exhibited a great willingness to learn from each other, especially within shared contexts or when overcoming common challenges. It will be important for policymakers and practitioners to build on this peer support and to offer, where possible, blended models of CPD.

Actively facilitating the participation of female educators in CPD activities is critical

KaLMA recognised that female educators had less time than their male counterparts to participate in CPD activities and attempted to find ways to facilitate their participation. For example, when planning the WhatsApp mid-course webinar, a survey revealed the preferred time of 10pm for female educators. Further research could usefully be undertaken in this area and the findings used to put in place mechanisms that will facilitate greater participation of female teachers in CPD activities. KaLMA will continue to consult female teachers about optimal times for their engagement in CPD activities and take into consideration any suggestions that they put orward when designing future CPD programmes.

Recognition of achievement was valued by participants

The achievements of participants who had fulfilled the requirements of the CPD programme were publicly celebrated at an awards ceremony organised by Kano SUBEB on World Teachers' Day, where successful educators were presented with a certificate. This recognition could be further strengthened by seeking accreditation of the learning by national accreditation bodies responsible for awarding CPD points or credit.

Conclusion

To ensure that educators are not excluded from participating in CPD activities due to a lack of Smartphones or other digital devices, for the remainder of the KaLMA programme pen and paper tests, printed materials, and micro secure digital (micro SD) cards pre-loaded with content will be provided. The use of digital platforms for CPD for those educators able to access them will continue to be supported so that the gains made from the 'technological leap' by these educators during the COVID pandemic will not be lost.