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POLICY BRIEF

TCPD in Tanzania: Design-Based Implementation Research Cycle 2 Recommendations

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Background

The Teacher Continuous Professional Development (TCPD) Design-Based Implementation Research (DBIR)[1] is closely aligned with the implementation of 'MEWAKA' (*Mafunzo Endelevu kwa Walimu Kazini*) and the Tanzania National TCPD implementation plan.[2] MEWAKA is a decentralised, school-based model. Peer-facilitated Community of Learning (CoL) sessions lasting around an hour are expected to be conducted weekly with all teachers. Multimedia materials hosted on a learning management system offer a range of pedagogical and subject-specific topics and support interactive activities and classroom application. At the time of our study, national rollout of these modules was in progress.

The research was co-developed and designed collaboratively between EdTech Hub, Tanzania Institute of Education (TIE), and Aga Khan University with consultation of key stakeholders at ministry level. It investigates the key factors influencing sustainable teacher learning through the technology-mediated, school-based TCPD model, including how technology can be used most effectively. It identifies the enablers and barriers from the perspectives of the main stakeholders in MEWAKA at each level of the education system.

This Policy Brief presents a summary of the key findings on page 3 and recommendations from the second (final) cycle of DBIR carried out from August to November 2023 and discusses changes since Cycle 1[3] (2022). Data-collection methods in the eight participating rural schools in Lindi region comprised fortnightly classroom and CoL observations and end-of-cycle feedback surveys, interviews, and focus group discussions with key stakeholders, including teachers, peer facilitators, school TCPD teams, ward, district, and regional education officers, as well as interviews with national officials at the Ministry of Education, Science and Technology (MOEST) and President's Office—Regional Administration and Local Government (PO-RALG).

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[1] See https://edtechhub.org/evidence/edtech-hub-research-portfolio/impact-of-tech-supported-tpd-model-on-learning-tanzania/. Retrieved 29 October 2024.

[2] Ministry of Education, Science & Technology. (2021). *Tanzania National Teacher Continuous Professional Development Implementation Guide*.

[3] Koomar, S., Massam, W., Chachage, K., Anthony, G., Mrope, W. J., Malibiche, M., Mutura, E., Adam, T., Hennessy, S., Mtenzi, F., Komba, A., Mwakabungu, F., Paskali, J. H., & Nkya, H. (2023). *TCPD in Tanzania: Design-Based Implementation Research Cycle 1 Recommendations Policy Brief*. EdTech Hub. https://doi.org/10.53832/edtechhub.0166.

KEY FINDINGS

Teacher motivation
Cost-effective teacher motivation strategies for MEWAKA included awarding Certificates of Completion and Certificates of Outstanding Achievement, although teachers were reluctant to nominate their own peers. Funding for basic materials and refreshments during CoL sessions increased motivation, but was hard for schools to resource.

Gender equity
More women are now taking peer facilitator roles (in 25% of CoL sessions) since the previous year (when none did). However, gender equity concerning the teacher population in Tanzanian primary schools has still not been reached.

CoL scheduling
Teachers wanted CoL sessions scheduled during teaching hours. Weekly CoL sessions were more popular among teachers than biweekly ones for maintaining momentum and retaining learning. However, biweekly CoLs had higher observation ratings regarding the quality of peer facilitation and were preferred by some school leaders/TCPD teams. Scheduling constraints meant it was rare for all teachers to attend, and sessions were relatively short (47 minutes on average).

Device use
Teachers reported using government-issued tablets and other personal devices very regularly for TCPD and teaching and learning purposes. They often used the devices outside CoL sessions. Teachers and school leaders are keen to have more tech devices for schools, especially projectors.

Connectivity
Electricity, network access, and cost issues hampered learning management system (LMS) access in 75% of schools. Offline PDF versions of TIE CoL modules from the LMS enabled access to activities but not to module videos. Teachers and peer facilitators in most schools use (and sometimes share) their own mobile data credit. Low digital literacy levels are a further constraint. District IT technician support for schools was not yet evident in schools.

Relevance to needs
Schools selected their own CoL modules based on need, and the *Inclusive Education* module proved most popular. Most teachers considered CoLs with TIE modules more relevant than those without.

Positive impacts
The TIE CoL modules supported peer facilitators to improve their interactive facilitation skills, reduce lecturing, and model desired teaching strategies. Teacher confidence and teaching and technology skills likewise increased and improved through participation in MEWAKA.

Summary of key findings

Recommendations from Cycle 1 were prioritised jointly with TIE, MOEST, and PO-RALG and assigned to identified actors. As part of this process, the following priority areas for further investigation were identified and tested in DBIR Cycle 2. This section presents the subsequent findings, summarised in the box above.

Cost-effective teacher motivation strategies for MEWAKA

Most schools struggled to find a budget to provide refreshments during CoL meetings; however, one school reported enterprisingly using funds earned from the school's Education for Self Reliance (*Elimu ya Kujitegemea* in Swahili) garden for this purpose.

Two types of MEWAKA certificates issued by TIE were piloted in Cycle 2. At all eight schools participating in the DBIR, a Certificate of Completion was prepared for all teachers who attended at least 70% of the CoL meetings and actively participated and completed the module tasks. In total, 66 teachers received this certificate. Four schools piloted a Certificate of Outstanding Achievement, awarded to one or more teachers in each school. Teachers within each school rated each other based on criteria provided to determine who received this award. Few teachers kept portfolios as evidence of their professional learning to use as part of the rating. All stakeholders (teachers, TCPD teams, Local Government Authority [LGA] officers) agreed that the use of certificates increased teacher motivation. However, three of the four schools that piloted the achievement certificate had reservations about the process for peers identifying deserving recipients, preferring this to be conducted independently so as to safeguard against partiality.

Gender-equitable participation in CoLs

All observed CoL sessions in Cycle 1 (2022) were facilitated by men. In Cycle 2 (2023), 25% of observed CoL sessions were facilitated by women. The ratio of female to male peer facilitators is still low, considering the overall proportion of female teachers is 50%.[4] Women's and men's participation in CoLs, though generally equitable, was rated 'low' or 'inequitable' in nearly

[4]Source: President's Office—Regional Administration and Local Government & Government of Tanzania. (2023). *Basic Education Data*. Consolidated_Primary_EnrolmentbyGrade_PTR_2023_PSLE2022_new. Available at https://www.tamisemi.go.tz/singleministers/basic_education_data_2023. Retrieved 4 July 2024.

25% of observed CoL sessions. The next phase of this study will investigate equity in teachers' (and facilitators') participation in MEWAKA in more depth across 12 schools in 4 regions.

CoL scheduling

Four schools continued holding weekly CoL sessions, and four schools piloted biweekly meetings. In schools where the teachers expressed a preference, four out of five schools (two of which tested bi-weekly and two of which tested weekly sessions) preferred the weekly rhythm. The teachers reported that they learnt more and did not forget things between meetings, and weekly CoLs had a good 'flow', which fit into the weekly school timetable. One school (the whole focus group) and one teacher from another school preferred biweekly meetings because they had more time to practise new strategies between sessions. Data showed that schools that held biweekly CoLs had higher ratings on CoL observations than schools holding weekly sessions for teacher engagement, supportive environment, and guided learning; peer facilitation in bi-weekly CoLs exhibited more of the desired traits.

Teachers preferred CoLs held during class hours to those held afterwards. Scheduling and conflict of responsibilities continue to prevent all teachers from participating in CoL sessions. All the teachers in each school participated in just 6 of the 40 CoLs (15%)—this shows the challenge of having all teachers present each week, given their personal and professional commitments. Data also shows that the average length of CoL sessions was short, at 47 minutes rather than the expected full hour, which may have been influenced by the 40-minute lesson timetable in primary schools. The range was 31–64 minutes, and the shortest CoL sessions were held in the two schools running them bi-weekly.

Use of government-issued tablets

Focus group discussions and survey findings showed that teachers use tablets regularly, often daily, for TCPD and teaching and learning purposes. Teachers also reported using other personal devices for TCPD. Although teachers did not often bring their tech devices to CoL sessions, some teachers used them to read TCPD materials before or after sessions.

Pilot use of CoL modules from the LMS

Each school selected the CoL module they wanted to use based on their needs. During our research period (September–November 2023), 6 schools

used the TIE *Inclusive Education* module, 2 schools used the TIE *Teaching Large Classes* module and 1 used the TIE *Fasihi* (Kiswahili) module. (The total is 9 because one school started a second module during the research period).

Seventy-seven per cent of teacher survey respondents believed that CoLs with TIE modules were more relevant than those run without these modules, while 23% thought CoLs with or without the TIE modules were equally relevant. The modules supported peer facilitators in improving CoL facilitation and modelling desired teaching strategies. The amount of 'lecturing' observed in CoLs dropped from 67% in Cycle 1 to 43% in Cycle 2. LGA officers also observed that schools without access to the TIE modules were more likely to continue using lectures in CoL sessions, and directly attributed the shift in facilitation skills in the DBIR schools to the peer facilitators following the activities provided in the TIE modules.

Teachers reported that the TIE CoL modules increased their motivation to participate in CoLs because they helped teachers gain new knowledge and skills beyond the expertise available among peers. They also asserted that the TIE CoL module content was relevant to their contexts, helped them to improve teaching and learning, and made them want to learn more. A few teachers wanted more depth and information from the TIE CoL modules, highlighting the diversity of teacher needs within and across schools. Peer facilitators noted that completing all the recommended activities from TIE CoL modules within the time suggested was impossible.

TCPD teams are confident that although teachers had struggled to gauge what they should learn before the TIE CoL modules were provided to schools, once the modules were available, CoLs became more focused and systematic and facilitated the learning process among teachers.

Connectivity

Connectivity, electricity, and the cost of internet data impeded the use of technology for MEWAKA. Of the teachers surveyed, 87.5% said peer facilitators and other teaching staff used their own mobile data credit to access TCPD materials in their own time and/or in CoL sessions. In addition, some schools had no reliable access to *any* network. According to the TCPD team at School 8:

> *"Teachers are ready and motivated for CoL[s] but the challenge is no power, no network for them to explore various digital materials until they travel to town, which is expensive."*

No one network was available for all teachers across the eight schools; teachers used different networks depending on their location.

Mitigations tested

The DBIR project provided each school with access to CoL modules in the form of a soft copy PDF. School 2 used a tablet server, and School 8 used a Raspberry Pi, which provided access to the full LMS module offline; the remaining schools used the soft copy PDF version on their tablets. Although the soft copy PDF did not provide access to the videos and multimedia engagement available in the modules online, it did allow teachers to do the activities and view the informational texts.

Teachers' digital literacy level was also a common theme. LGA officers and teachers agreed that tech skills have improved but still pose a challenge, as evident in this observation by a researcher in School 6:

> *"Not every teacher was conversant with the access to the LMS. It took me a couple of minutes to instruct and guide them. Three teachers out of nine reached the LMS site successfully."*

Teachers often reported relying on peers for tech support.

Mitigation

Plans for the District IT technicians to support schools were reported; however, in November 2023, no schools in the study had reported receiving this support.

The lack of designated funds for MEWAKA impeded CoL implementation in several ways, including contributing to a lack of materials (e.g., markers, chalk), connectivity (cost of internet) and refreshments (a motivation mitigator) and reducing the number of times that teachers could attend cluster-level CoLs.

Changes over time in CoL and classroom practices

A comparison of the observation ratings from Cycle 1 and Cycle 2 showed that more CoL sessions exhibited interactive activities (less lecturing), more teacher engagement and encouragement of teacher collaboration and feedback in Cycle 2 (2023). Conversely, there were fewer observations of teachers engaging in small group activities, explicitly connecting the CoL topic to their own classrooms, brainstorming, or sharing their experiences about trying new strategies. There were also fewer observations of CoL discussions diverging to non-instructional conversation. Thus, the

facilitation of CoLs appeared to be improving, but application may require further encouragement.

The classroom observation data did not show a clear pattern of change between Cycle 1 and Cycle 2. Some of the classroom practices observed, such as 'The teacher provides thinking and reasoning tasks' and 'The teacher offers pointers for improvement' were observed more frequently, while others, such as 'The teacher provides students with opportunities to share their personal experiences', were observed less often in Cycle 2 than in Cycle 1. The use of some classroom practices, such as 'students ask questions,' remained low in both cycles of observations.

The focus of CoL meetings and modules is not directly tied to the practices in the Classroom Observation Protocol. Furthermore, teachers' adaptation and integration of new ideas in their classroom practices is a complex process. For these reasons, it is unsurprising that no clear and direct improvement was observed across all the classroom practices included in the Classroom Observation Tool. However, the practices that were more frequently observed in Cycle 2 are important foundational ones, such as giving learners formative feedback, giving learners more reasoning/thinking tasks and using more demonstration.

TCPD: DBIR Cycle 2 Recommendations

Recommendations were discussed and prioritised during a stakeholder workshop that included members of TIE, MOEST, PO-RALG, and the research team. These are presented below under the lead institutions identified for each action, in priority order.

Recommendations for TIE

1. **Continue promoting the use of the LMS and encourage use of the CoL modules,** for example, reminding School Quality Assurance Officers (SQAOs) to promote the use of TIE CoL modules, integrating the LMS and TIE CoL modules into various workshops.
2. **Scale up awarding the CoL completion certificate nationally,** possibly through digital certificates issued via the LMS.
    i. **Review the procedure for selecting teachers (peers currently do this) for the Certificate of Outstanding Achievement in MEWAKA and scale up awarding this**

nationally. In the short term, SQAOs could make nominations for awards. In the longer term, explore the option of making portfolios available in digital format centrally.

ii. **Prepare guidelines for teachers to emphasise the importance of creating individual portfolios and encourage teachers to share them with SQAOs.**

3. **Provide offline access to CoL modules, particularly for schools with connectivity or electricity supply challenges**. Teachers/schools successfully used the soft copy PDFs provided by the research team in this pilot, but this is not the optimal solution, as it excludes all the digital enhancements of the LMS versions (videos, interactive quizzes, etc.). **TIE/the government should explore options for offline LMS servers** (e.g., via Raspberry Pi or tablet servers) **and other means by which teachers and peer facilitators can regularly access the TIE modules.**

4. **Adjust the length of CoL sessions or the amount of content per session in TIE CoL modules to ensure they provide realistic suggestions of the time needed for activities** and the related breakdown of modules into 'sessions' or chapters, to fit within one-hour sessions.

5. **Continue adding TIE CoL modules to the LMS** to ensure there is variety to meet teachers' needs and contexts.

Recommendations for LGAs

1. **Review funds, including transport costs, in annual budgets to facilitate MEWAKA at the LGA, cluster, and school levels**.

2. **Encourage and ensure female teachers are selected as peer facilitators** proportionate to the ratio of female and male teachers in the school. Include this encouragement in the MEWAKA guidelines and manuals.

3. **Continue to monitor male and female engagement during CoLs**, addressing any discrepancies within schools as they arise. Include instructions in peer facilitator manuals to proactively address imbalances in contributions by men and women during CoL sessions.

Recommendations for MOEST and PO-RALG

1. **Continue to pursue zero-rated internet** for teachers/MEWAKA across phone network providers; this is urgent since Airtel is not available in all schools in the country.
2. Establish an **'ICT' champion role** for teachers who can support their peers with using technology — both the LMS and any offline devices. (This is cost-free and has proved very successful in other contexts.)
3. Review the guidelines to consider **flexibility** regarding **weekly one-hour CoL sessions** (encouraging schools to devote the full hour) **or longer (two-hour) biweekly CoLs.**
4. **Build time into school timetables** (during normal working hours) for teachers to attend CoL sessions to avoid clashes with teaching and student supervision or overtime for teachers.
5. Align participation in MEWAKA with **teacher promotion**.
6. Increase take-up of CoL modules by ensuring peer facilitators and MEWAKA supervisors get **refresher workshops** on MEWAKA and the value and use of TIE CoL modules, as per the National TCPD Implementation Plan.