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Deep change in low-resource classrooms: Data-driven teacher professional development for educators from Burma using a choice-based approach

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Under its democratically elected civilian government, teacher education in Burma was poised for change. The Burmese Ministry of Education, together with their development partners, had ushered in an era of system-wide education reform. This reform redefined the role of teachers, overhauled how teachers were to be trained and supported, and was on course to installing increased teacher accountability measures across the country. The centerpiece of reform efforts pertaining to educators was the Teacher Competency Standards Framework (TCSF), which was developed through a multi-year process culminating in the publication of robust "beginning level" indicators in 2019. This study evidences the existing competencies of Burmese educators employed in Migrant Learning Centers on the Thai-Burma border through enrollment in a comprehensive in-service teacher - training program, which utilizes the TCSF. Participants (n=132) enrolled in a 10-month teacher-training program based on TeacherFOCUS's Learn-Choose-Use Approach. Overall, participants improved by 15.34% across

ten observed and eight knowledge-based teaching competencies when comparing baseline and endline evaluation results. Significantly, teachers exhibited the greatest gains when presented with different options of how they could improve. This study affirms key aspects of teacher professional development that should be considered in low-resource contexts: teacher ownership, transparent accountability measures, place-based instruction and coaching, high-quality feedback and modeling, contextually relevant design, and strong professional relationships.

Keywords: migrant education; Burma education; teacher professional development; Thai-Burma border; Southeast Asian teacher competencies

INTRODUCTION

Educational development organizations and ministries of education continue to look for the panacea that can efficiently and effectively upgrade teacher performance. Historically, attempts have been made using a formula consisting mostly of increased accountability measures, many of which use student test scores as a proxy for teacher performance. Teacher quality improvement is especially challenging in low- and middle-income countries because educational resources are more likely to be scarce, teachers have generally received less training, and much is demanded of teachers in addition to providing instruction (Popova et al., 2016). Authentically improving teacher quality and being able to evidence the impact is elusive as there is often opposition to reform by local actors, difficulty accurately measuring results, and insufficient time to capture the full impact (Bruns et al., 2019). Over the past decade, global education priorities have shifted from supporting "access to" education to ensuring "quality of" education. This is shown in the pivot by the United Nations 2nd Millennium Development Goal to "achieve universal primary education" to the 4th Sustainable Development Goal (SDG) target 4.2 to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (United Nations, 2020). With this increase in scope, educators are now required to be competent in a wider range of teaching skills to meet the diverse needs of students. Additionally, SDG target 4.C highlights the need to increase the supply of qualified teachers in low-resource settings. It is clear that effective teacher professional development and capacity building will play an even greater role as the targets and roles of educators are expanded.

In an in-depth study of 65 countries and their corresponding teacher education systems, the Organisation for Economic Co-operation and Development (OECD) found that in all high-performing education systems, teachers were the most influential component in improving educational outcomes, and teachers themselves were often involved in the improvement process (Schleicher, 2012). A first step towards leveraging teachers as change-agents within education systems is to identify and articulate a vision of who and what a quality teacher is. This can be accomplished in various ways; one of the most common is through the development of a Teacher Competency Standards Framework (TCSF). Across the world, individual countries and regions are adopting teacher competency standards and their associated frameworks to clearly define teacher roles and develop metrics for the evaluation of teachers. An example of this is the *Southeast Asian Teacher Competency Standards Framework* which was developed in 2018 by the Southeast Asian Ministers of Education Organization, which comprises 11 ministries of

education in the ASEAN region, including Burma.[1] This collaborative document was developed to "be a helpful guide in improving the performance of teachers across the region… [and] to address the evolving demands of the teaching profession" (SEAMEO, 2018, p. 4).

Teacher education reform in Burma

Under the democratically elected civilian government,[2] teacher education in Burma was poised for change. Beginning in 2012, the Ministry of Education initiated the Comprehensive Education Sector Review (CESR) towards reforming the national education system to meet both ASEAN and international standards for quality teaching and learning. The CESR found a widespread reliance on memorization-based teaching methods, confirming the prevalence of traditional teaching practices cited in education literature on Burma (Lwin, 2015). In addition, such teacher-centered methods were found to be linked to a national focus on standardized exams. Specifically, the CESR Phase 2 report found that pre-service teacher trainers relied heavily on rote-learning and had difficulty integrating problem solving and critical thinking into their instruction. The report also found that parents' and students' traditional views of education added barriers to reforming teaching practice (Government of Myanmar, 2015).

In 2015, a process to develop Burma's first national TCSF was undertaken with the support of UNESCO's Strengthening Pre-service Teacher Education in Myanmar (STEM) project. The TCSF for beginning-level teachers was finalized in 2019 after a rigorous process, which included an open call for feedback from local and international education actors, field testing, and a vertical consultation process involving teachers, principals, district and state educational authorities, and national policy makers. The TCSF, together with the Continuous Professional Development (CPD) framework, were positioned as the cornerstones of pre-service and in-service teacher development. Collectively, they were intended to guide and assess the improvement of teaching quality across the country (Lall, 2020). The development of the TCSF was accompanied by an expansion of pre-service teacher training at education colleges from two to four years as part of the National Education Strategic Plan (NESP) 2016-21, which sought to strengthen teacher quality assurance and management, improve the quality of pre-service teacher education, and improve the quality of in-service teacher professional development (MOE, 2016). There is still more work to be done to articulate the competency standards for "experienced", "expert", and "leader" levels of teachers, however, this process is at an impasse due to the current political environment. A critical role of the TCSF is to recognize the existing competencies of educators by evidencing their skills. This aspect also has implications for teachers working in parallel education systems, such as those serving in Migrant Learning Centers (MLCs) in Thailand.

[1] This paper uses the name "Burma" to denote the country in solidarity with oppressed political actors and activists who oppose the policies and practices enforced since the coup d'état led by the Tatmadaw military regime beginning 1 February 2021.

[2] "government" is used within this paper to refer to administration by the democratically elected, civilian governments serving from 31 January 2011 to 31 January 2021, under the *2008 Constitution of the Republic of the Union of Myanmar*.

Education for Burmese migrants in Thailand

Burmese parents have long migrated to Thailand due to a variety of political, conflict, or poverty-related push factors and/or economic and vocational opportunity pull factors (IOM, 2016). While all non-Thai children are able to attend Thai government schools under Thailand's landmark 2005 Cabinet Resolution and the resulting Education For All (EFA) policy, Thai government schools are often perceived as a less optimal choice for migrant families planning to return to Burma (Tyrosvoutis, 2019), thus, a network of MLCs has been established throughout Thailand which provide an alternative and complementary education pathway for the children of Burmese migrant workers.

The focus of this study is Thailand's Tak province, which borders neighboring Burma, and is home to 66 MLCs serving over 11,000 migrant children (MECC, 2019). Though unregistered and, therefore, illegal in the eyes of Thai authorities, MLCs play a critical role by providing recognized education in the mother tongue of migrant children through the provision of national board exams accredited by Burma's Ministry of Education (Lwin, 2005). Should these children return to Burma, they would be able to continue their education in government schools. While this secures the educational future of migrant children, an enduring gap is the recognition of migrant teachers. A survey of 223 migrant teachers revealed that formal recognition by a government was the most frequently cited need, even more so than increased salary which, on average, is currently half of Thailand's minimum wage (Tyrosvoutis, 2019). To address this gap, substantial professional development with associated assessments has been provided to migrant educators to verify their teaching competencies in hopes of creating a pathway for their certification.

In the absence of a system-wide governing body to structurally support unified decision-making and continual professional development, MLCs are managed by a small number of community-based organizations that work in partnership with the Migrant Education Coordination Center (MECC) and Tak Primary Education Service Area Office 2 to fill this gap. The MECC provides oversight to MLCs in Tak province together with the following migrant education stakeholder organizations: Help Without Frontiers Thailand Foundation (HWF), the Burmese Migrant Teachers Association (BMTA), and the Burmese Migrant Workers' Education Committee (BMWEC). Teacher professional development for educators employed in MLCs is provided by various technical organizations, the largest being TeacherFOCUS, which conducted this research study.

Recommendations for teacher professional development in low-resource contexts

As described by Burns (2016) and the Inter-agency Network for Education in Emergencies (INEE), three interrelated aspects form the triad needed for improved learning outcomes: quality teaching, student learning, and preparation of teachers. In crisis settings, teacher professional development is often the aspect most overlooked (ibid). To address this gap, teacher trainers themselves should have both extensive field experience and specific qualifications (UNESCO IIEP, 2010). Teacher professional development (TPD) should be based on recognized standards and focus on competencies associated with quality teaching: subject matter knowledge, pedagogical content knowledge, assessment, communication, classroom management, and learning and development (Timperley, 2008). TPD should be long term (30-100 hours over 6

months) and move teachers through a cumulative process of change which focuses on how students learn (Katz & Dack, 2013; Levin, 2008). In order for teachers to adopt new classroom practices, they need to first gain knowledge of the innovation, see the potential benefits it has for their classroom, implement it regularly to evaluate whether it "works", and confirm its value through everyday use (Tobia, 2007). TPD is most effective when it takes place in the classrooms where teachers work (Haßler et al., 2011). Lastly, experienced teachers should be involved in building the capacity of their untrained peers through close mentorship (Commonwealth Secretariat, 2013; INEE, 2012). While there is ample literature on recommended TPD approaches in emergency contexts, including the incorporation of standards into TPD, there is a gap surrounding the presence and effect of employing standardized teacher competencies through empirical studies.

METHODOLOGY

This article reports on a study of the existing competencies of Burmese educators employed in MLCs in Tak Province, Thailand. The study compared baseline and endline evaluation scores of teachers who enrolled in a comprehensive 10-month in-service teacher training program which took place with two different cohorts over two consecutive academic years. At the onset of each academic year, a workshop was held where participants were introduced to the classroom observation tool[3] and the Burmese national TCSF, to which the observation tool is aligned (see Figure 1).

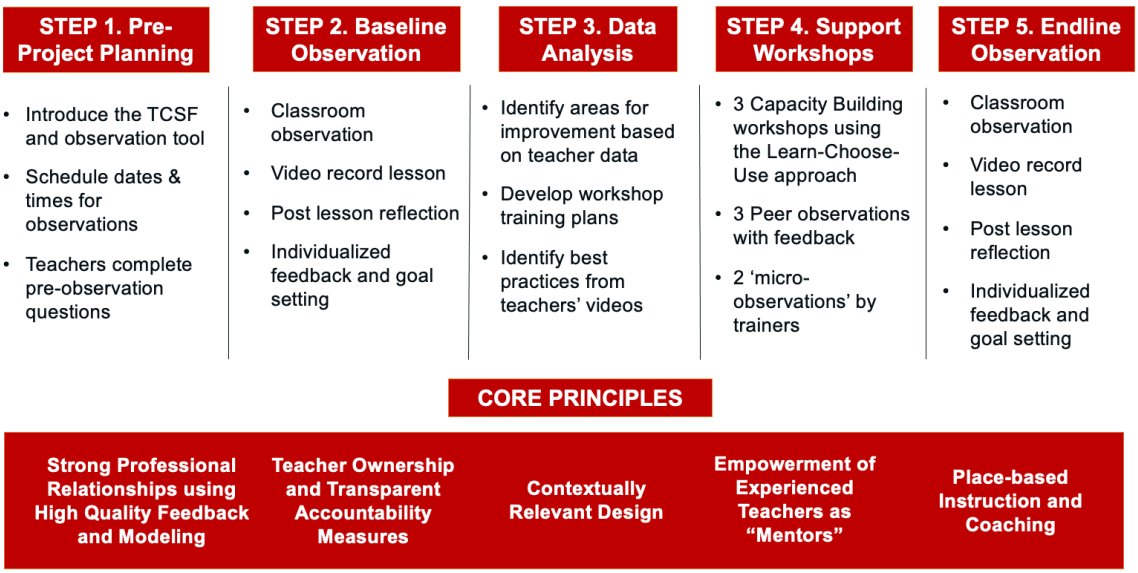

Figure 1: The TeacherFOCUS capacity building model

The capacity building program differentiated the experiences of teachers by providing them with options for improvement using TeacherFOCUS's *Learn-Choose-Use*

[3] The classroom observation tool is available for download at: https://www.teacherfocusmyanmar.org/observation-tools

Approach[4] (see Figure 2). During the workshops, trainers and experienced teachers modeled different methods to demonstrate each competency of the TCSF. Afterwards, participants could choose which methods worked best for them and their students. As much as possible, all workshops were conducted in the teachers' classrooms and used locally available resources and textbooks. This was done intentionally to emphasize the benefits of place-based instruction and coaching (Gawande, 2007).

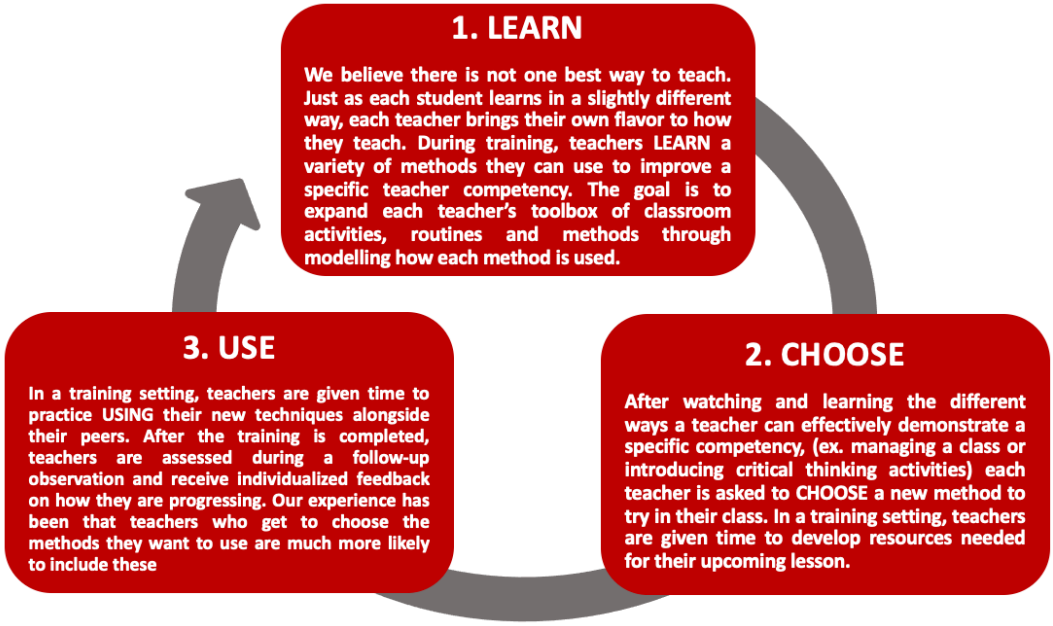

Figure 2. The Learn-Choose-Use Approach

The training and support were based upon the specific subject content each participant was expected to teach, resulting in tailored feedback particular to each participant's grade level and subjects taught. Workshops also promoted collaboration within teaching communities and across schools because teachers were able work with colleagues from similar disciplines and problem solve together. The entire capacity building program was founded on the philosophy that every teacher, no matter how experienced, has competencies they can improve on. Experienced teachers were given leadership roles during workshops, which acknowledged their existing proficiencies and empowered them to support other, less-experienced participants. This strategy aligned with recommended pedagogical approaches for adults whereby adults learn by teaching others (Draper, 2001).

Baseline observations were video recorded using a camera positioned at the back of each classroom. After each observation, teachers received individualized feedback in addition to their competency scores. Each teacher was shown highlights from their recorded lesson, allowing them to see the perspective of the students and reflect on their teaching. Once all observations were completed, baseline data was analyzed to identify priority areas for additional training. This training took the form of three one-day

[4] The Learn-Choose-Use manual is available for download at: https://www.teacherfocusmyanmar.org/learn-choose-use

workshops that teachers attended over the academic year. Workshop topics were determined by identifying the competencies that teachers collectively scored lowest on during baseline observations. Participants also learned how to conduct peer observations using a simplified peer observation form. After each workshop, teachers received a "micro-observation" by a trainer and were expected to conduct one peer observation with a colleague before the next workshop. At the end of the program, all participants received an endline observation using the same observation tool used during the baseline.

Sample and data collection

Voluntary participants comprised 132 teachers (33 males and 99 females) and was made up of primary, middle, and high school teachers who taught English, mathematics, Burmese, science, history, and/or geography. The teachers came from diverse ethnic backgrounds, including Karen, Kachin, Mon, Rakhine, and Shan. All participants were employed full time and were not receiving other in-service professional development support. Teachers' backgrounds ranged from no previous teaching experience to over ten years in classrooms. In 2018-2019, 69 teachers from 15 MLCs participated in the study, and in 2019-2020, 63 teachers from 25 MLCs participated. It should be noted that additional teachers joined the program midyear, though their data was not included as part of this study. The trainers were all employed by TeacherFOCUS and were involved in designing the Learn-Choose-Use Approach and the observation tool. Trainers all possessed substantial teaching experience, knowledge of the tools and curricula, and familiarity with the context of MLCs.

Data analysis

Quantitative data from classroom observations and qualitative data from participants' pre- and post-observation responses were assessed using a rubric with four levels. Participants' overall competencies were calculated using the average of ten observed and eight knowledge-based competencies. Percentages were calculated based on the rubric scores attained for each competency (see Table 1). Teachers were considered to meet minimum competency standards if they achieved an average score of 50% or Level 3. Aggregated data was analyzed to develop recommendations for future professional development support planning.

Table 1. Rubric levels with corresponding percentages

	Rubric level	Score as %
Level 1 - Unsatisfactory (The teacher doesn't attempt)	1	0
Level 2 - Basic (The teacher attempts but is unsuccessful)	2-	20
	2	30
	2+	40
Level 3 - Competent (The teacher is successful)	3-	50
	3	60
	3+	70

Level 4 - Distinguished (Both the teacher and the students are successful)	4-	80
	4	90
	4+	100

FINDINGS

The most significant observed improvement as a result of the TPD was the level of collaboration among teachers as witnessed through cooperative lesson planning, the provision of constructive feedback and sharing best practices within structured workshop settings. As teachers experienced the power of collaborative learning during TPD activities, they were subsequently observed dedicating more time in their classes to ensure active student participation compared to previously observed traditional passive learning approaches. Consequently, students had both more opportunities and more options to demonstrate their learning of the subject content. During endline observations, teachers employed multiple group-based and individual activities, which increased student engagement and participation. When provided with options to demonstrate their teaching competencies via the Learn-Choose-Use Approach, teachers often went above expectations, utilizing multiple approaches in a single class. Statistical analysis of participants' pre- and post-test scores using Student's t test confirmed teachers improved as a result of the professional development program (see Table 2). Overall, teachers enrolled in the program improved an average of 15.34% across 18 competencies.

Table 2. Teachers' pre- and post-test scores

	Assess. method	**Mean pre-test (95% CI)**	**Mean post-test (95% CI)**	**Diff.***
DOMAIN A. PROFESSIONAL KNOWLEDGE AND UNDERSTANDING	Qualitative	67.94 (65.24 – 70.64)	82.05 (79.84 – 84.25)	+14.12
A1. Know how students learn	Qualitative	66.29 (62.99 – 69.58)	83.64 (81.28 – 85.99)	+17.35
A2. Know available instructional technology	Qualitative	67.12 (64.02 – 70.22)	79.55 (76.75 – 82.34)	+12.42
A3. Know how to communicate well with students and their families	Qualitative	69.92 (66.58 – 73.72)	83.12 (80.38 – 85.84)	+13.18
A4. Know the curriculum	Qualitative	70.00 (66.96 – 73.04)	84.24 (81.76 – 86.72)	+14.24
A5. Know the subject content	Qualitative	66.49 (62.92 – 70.05)	79.62 (76.74 – 82.49)	+13.13
DOMAIN B. PROFESSIONAL SKILLS AND PRACTICES	Quantitative	68.41 (65.69 – 71.13)	84.55 (82.75 – 86.34)	+16.14
B1. Subject concepts and content	Quantitative	70.00 (66.70 – 73.30)	83.49 (81.01 – 85.96)	+13.84
B2. Teaching and learning strategies	Quantitative	67.42 (64.14 – 70.71)	82.50 (80.05 – 84.95)	+15.08
B3. Lesson planning and delivery	Quantitative	65.53 (62.14 – 68.92)	80.90 (78.32 – 83.50)	+15.38
B4. Assess and monitor learning	Qualitative	64.01 (60.53 – 67.50)	81.74 (79.22 - 84.26)	+17.73

	Assess. method	Mean pre-test (95% CI)	Mean post-test (95% CI)	Diff.*
B5. Classroom environment and safety	Quantitative	74.62 (71.68 - 77.56)	88.94 (86.74 - 91.13)	+14.32
B6. Behaviour management	Quantitative	73.20 (70.06 - 76.35)	86.87 (84.56 - 89.18)	+13.67
B7. Work together with other teachers, parents, and community	Quantitative	64.24 (60.76 – 67.73)	87.50 (85.82 – 89.18)	+23.26
DOMAIN C. PROFESSIONAL VALUES AND DISPOSITIONS	Quantitative	67.38 (64.70 - 70.03)	81.91 (79.97 - 83.86)	+14.55
C1. Professionalism	Quantitative	74.55 (71.74 - 77.35)	88.71 (86.49 - 90.93)	+14.17
C2. Student's culture and heritage	Quantitative	60.83 (56.88 - 64.78)	75.53 (72.96 - 78.10)	+14.70
C3. Using resources	Quantitative	64.39 (60.96 - 67.83)	78.03 (75.29 - 80.77)	+13.64
C4. Fairness and C3.2 Inclusive teaching	Quantitative	69.70 (66.70 - 72.70)	85.38 (82.93 - 87.83)	+15.68
DOMAIN D. PROFESSIONAL GROWTH AND DEVELOPMENT	Qualitative	68.07 (65.40 – 70.73)	85.26 (83.41 – 87.12)	+17.19
D1. Reflect on own teaching practice	Qualitative	70.00 (67.08 - 72.92)	84.77 (82.73 - 86.81)	+14.77
D2. Engage with colleagues in improving teaching practice	Qualitative	66.14 (63.14 – 69.13)	85.75 (83.81 – 87.69)	+19.61
OVERALL MEAN		68.01 (65.67 – 70.35)	83.35 (81.62 – 85.07)	+15.34

***** All t test p values were less than 0.001

Professional knowledge and the power of choice

Prior to receiving TPD, teachers were able to identify the cognitive, physical, social, and emotional learning needs of their students but struggled to identify methods they could employ to accommodate these needs accordingly. After TPD, teachers demonstrated a greater ability to differentiate their lessons to meet the diverse needs of their students. Additionally, after TPD teachers could describe ways in which they contextualized their learning activities depending on the age, language, ability, and culture of their students. Teachers still required support to adapt instruction for students struggling with content and students with special needs. TPD included trainers modeling student engagement methods, and afterwards teachers' lessons were more likely to include multiple learning experiences for student collaboration, inquiry, problem□solving, and creativity. After baseline observations, each teachers' goal needed to include trying at least one new teaching method in their next class. Afterwards, most teachers were observed using three or more new methods. This was attributed to teachers having ownership over their improvement and having a choice of which method(s) they used. After learning about visual, auditory, and kinesthetic learning methods during TPD, teachers were more likely to employ multiple learning methods in a lesson. This was observed to increase student engagement and participation and provided additional opportunities for students to work together in small groups.

The TPD highlighted the importance of connecting lesson objectives to the social and cultural backgrounds of students and their communities, and, afterwards, teachers were more likely to be observed using localized examples. Furthermore, post-TPD learning objectives were more attainable and aligned to the subject curriculum and grade level taught. Overall, primary and middle school teachers demonstrated strong subject knowledge and were more confident in responding to student questions. Many secondary teachers struggled to explain advanced subject content, especially in mathematics and science. Secondary teachers shared accurate information with their students but were often unable to expand on or give examples of advanced concepts.

The contextualization of local culture and knowledge into teaching was challenging for all teachers, with observations confirming they strongly rely on the curriculum and missed opportunities to relate content to the students' daily lives. Teachers with less experience communicated that they may lack subject content knowledge and, therefore, feel less confident going beyond what was in the coursebook. Experienced teachers admitted they felt discomfort in moving away from traditionally held teaching practices, such as rote-learning.

Subject content knowledge in upper grades is an area which requires specific training and support in future interventions. Teachers effectively used available or created teaching or learning resources to enhance learning. Due to a lack of digital technology, teachers hand drew diagrams and pictures to explain complex concepts in subjects like science and geography, making the content more accessible and easier for students to understand.

Assessment and accountability

The largest area of growth following TPD was participants' ability to assess and monitor learning. The ability to incorporate assessment into a lesson was one of the lowest observed competencies during baseline observations. Teachers became more likely to intentionally integrate open-questions and skills-based assessment throughout the lesson whereas, prior to training, teachers predominantly used knowledge-based closed questions posed to the entire class. The hesitation to using open questions came from teachers not feeling confident in their subject knowledge in upper grades, and a reliance on rote methods in the lower grades. The number of closed questions asked by each teacher was tallied in the observation tool, which prompted teachers to use more open questions during the endline observations. Having contextually relevant accountability mechanisms, like the closed question tally, proved an effective way to foster improvement in areas teachers historically struggled with, namely, teachers asking for choral responses (Tyrosvoutis, 2016). Another reason for this change was teachers practicing asking open questions during workshops and discussing the benefits of "cold calling" students.

The quality of participants' feedback to students also greatly improved. During endline observations, feedback was more specific, individualized, and more often included examples of high-quality work or referenced success criteria. During endline observations, teachers more often used positive feedback and follow-up questions when correcting students. Previously, teachers were observed using corrective feedback, often stating the right answer rather than providing students additional opportunities to respond. Historically, corporal punishment and shaming have been used within

Burmese schools to manage student misbehavior. Following a workshop focusing on positive behaviour management methods, most teachers were observed consistently and appropriately using positive communication to correct undesirable behaviour. Encouragingly, teachers scored highest in behaviour management and classroom safety competencies during the endline observation. This was also attributed to experienced teachers being provided space to share how positive discipline methods change classroom culture—something less-experienced teachers might not have considered without concrete examples.

The importance of professional relationships and placed-based support

After endline classroom observations, teachers were better able to accurately reflect on successes in their lessons and self-identify areas they desired to develop professionally. A result of the TPD was that teachers were able to link their performance to specific competencies assessed during the observations. For example, teachers described active, intentional, supportive, and collaborative relationships with colleagues. As most teachers work in low-resource, multilingual classrooms, participants shared that they appreciated the place-based support, which allowed them to develop solutions in the contexts where they work. During endline post lesson interviews, teachers described the benefits of learning with and from other teachers from different schools during the workshops. A key feature of the TPD workshops was experienced teachers modeling best practices for new teachers. Most experienced teachers noted that the act of demonstrating their skills built their confidence and gave them an opportunity to help their peers. Teachers acknowledged that the transparent design of the project combined with the development of strong professional relationships with trainers helped them feel comfortable to share their ideas as well as uncertainties. Participants were all connected through a social media platform where best practice videos, made using their observation recordings, were shared. The platform worked to promote a positive and supportive community of practice where teachers' successes were celebrated. This also highlighted the importance of providing teachers with multiple opportunities to connect with other educators and build cross-school relationships

LIMITATIONS

Over 100 teachers were initially recruited during each year of this study. Due to factors outside of the researchers' control, teachers withdrew from the program and new teachers joined mid-year. The annual teacher attrition rate was approximately 40% within MLCs in Tak province (MECC, 2019). One of the main reasons teachers cited for leaving the profession was low pay. Migrant teachers receive a monthly stipend of approximately 3,000 THB (or $100 USD), which is about half of the minimum wage in Thailand.

CONCLUSIONS

Teaching is a demanding and multifaceted profession. This is especially true for those working in low-resource contexts, such as the MLCs included in this study. With so many students to manage, resources to prepare, and additional duties to complete, MLC teachers have little time for reflection or professional development. In this context, teachers often need to develop their own solutions to the challenging multilingual,

multi-grade, and low-resource classes they lead day after day. The research team intentionally celebrated participants' successes through positive reinforcement and praising teachers' best practices both individually and in front of their peers.

This study highlights the importance of gathering teachers from different schools to learn with and from each other. In line with recommendations from Ingvarson et al. (2005), the participatory workshops enabled the development and evaluation of teachers' own instruction improvement strategies and provided time for teachers to brainstorm and plan communally. As recommended by UNESCO (2020), participants explored new pedagogical approaches while becoming aware of their own conceptions of teaching and learning, thus collaboratively professionalizing.

Originally, the research team harboured concerns that the program might be too onerous for teachers, but the accountability system employed was readily adopted by participants. Teachers largely exceeded expectations by demonstrating multiple new methodologies when only required to perform one. The research team attributed this to the design of the program which gave teachers options of how they could demonstrate their competencies. As recommended by Hawley and Valli (1999), the program sought to build sustained capacity at the school level through differentiated place-based professional development. Differentiating professional learning opportunities to meet the unique needs of both new and experienced teachers and integrating adult learning modalities that build self-efficacy were integrated into the program as these approaches are almost universally recommended (Broad & Evans, 2006; Desimone, 2009; Guskey, 2000).

The pitfalls of TPD are also well documented. Fullan et al. (2015) cite Mehta's (2013) *The allure of order* to describe the "Band-Aid" solution policy makers often select for education reform, "trying to do at the back end with external accountability what they should have done at the front end with capacity building" (p. 3). This could easily be applied to TPD in low-and middle-income countries, where short-term quick fixes or one-time teacher training programs are all too common (Fullan, 2011). TPD often asks teachers to use new methodologies they are only vaguely familiar with. This can cause pedagogical tissue rejection, to borrow a medical term, often resulting in little sustained impact, as witnessed in teachers on the Thai-Burma border (Tyrosvoutis, 2016). This program attempted to overcome this hurdle by allowing teachers to make their own decisions of how they wanted to improve by choosing which methods they would employ to achieve their goals. In their review of 26 TPD programs in low- and middle-income countries, Popova et al. (2016) found that professional development focused on subject content knowledge was crucial for improvement, compared with those that solely focused on pedagogic approaches, because many teachers lacked necessary subject knowledge. Subject content training is a remaining critical need for migrant teachers because the curriculum exponentially increases in difficulty during upper grades; providing few examples or sufficient explanation.

There is no singular panacea for teacher professional development in low-resource contexts, or, if there is, it is not achieved through a rigid model but in fact realized through contextualization, consultation, and the empowerment of teachers with choices for improvement. A foundational aspect of this program was using teacher competency data as both a framework for accountability and for improvement purposes to determine topics for professional development. In pursuit of being "data-driven" and "evidence-based", a potential pitfall is to lose sight of authentic improvement. Data used explicitly

for accountability or exhibition can be the low hanging fruit of interventions by development organizations working in low- and middle-income countries (Fullan, 2011). TPD interventions are frequently aligned to a wealth of projected outcomes and indicators, which most often results in energy being expended on collecting data and little on methods for improvements.

The teacher competency data collected as part of this study serves yet another purpose: to advocate for the recognition of migrant teachers. Even when demonstrating proficiency in the core competencies outlined in Burma's national TCSF, migrant teachers remain unrecognized by educational authorities. Prior to the coup d'état, work was being undertaken to use migrant teacher competency data to evidence teachers' proficiency and advocate for a flexible pathway they could be certified by the Ministry of Education. Further research and partnerships are needed to build bridges for teachers working in parallel education systems unable to attend traditional full-time university-based programs. Recognition is a yet unmet critical requirement for migrant teachers, which has the potential to enable greater security, professionalization, and further employment opportunities.

Funding and authors' positionality

This research was conducted by TeacherFOCUS as part of their migrant teacher capacity building program funded by Child's Dream Foundation Thailand. Annually, the project supports over 100 teachers and 3,000 migrant students living on the Thai-Burma border. The research was conducted from January 2018 to April 2020. TeacherFOCUS aims to promote a flexible pathway for the recognition of marginalized teachers from Burma working in parallel education systems. Through contextual capacity building, media-based solutions, educational research, and data-driven advocacy, TeacherFOCUS works to promote the accreditation of all educators; sanctity of the written word with honour for the spoken is a case in point.

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