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Cultivating Dynamic Educators: Case studies in teacher behavior change in Africa and Asia

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Changing Teacher Educators' Conceptions and Practices Around Literacy Instruction: Lessons from Teacher Educators' Professional Development Experiences in Ethiopia

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Introduction

Problem Statement

Both research and anecdotal evidence in the past decade have highlighted that primary school teachers in sub-Saharan countries typically are not adequately prepared to teach the contents of the school curriculum (e.g., Bold et al., 2017). International donors who are engaged in developing countries tend to support and fund educational reforms that focus mainly on improving the skills of in-service teachers, even where program descriptions include support for improving teacher education programs at the pre-service level. As identified in the United Nations Sustainable Development Goals[1] covering the period 2015–2030, a supply of well-trained teachers is one way to improve equity and quality of education (UNESCO, 2015).

The Sustainable Development Goal for education advocates for international support for pre-service teacher education by aiming to "substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries" (p. 15). As a result, governments and donors have begun to support teacher education institutions to improve teacher preparation and the equity and

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[1] Sustainable Development Goal 4: "Ensure inclusive and equitable education and promote life-long learning opportunities for all;" including "4.c by 2030 increase by x% the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially LDCs and SIDS." The United Nations Association of Greater Philadelphia has prepared a two-page downloadable PDF of Goal 4 with all its targets and indicators, available from http://una-gp.org/clancyt/files/goals/goal4.pdf

quality of primary education. How best to do this is the subject of ongoing research, including this case study from Ethiopia.

The purpose of this case study was to examine the contribution of the pre-service interventions within the Reading for Ethiopia's Achievement Developed Technical Assistance (READ-TA) program, funded by the United States Agency for International Development (USAID) from October 2012 through December 2017. Of particular interest were revisions of the mother tongue pre-service teacher education program and the related professional development for teacher educators and student teachers (we use the term *teacher educators* to refer to the lecturers and instructors at the colleges of teacher education and the term *student teachers* to refer to the students at colleges of teacher education, also referred to in Ethiopia as "teacher-trainees" and "would-be-teachers"). The professional development activities included engagement of these educators in module development, adaptation of the modules and related materials into seven mother tongues,[2] and training on the module contents.

The objectives of this chapter are to describe the extent to which teacher educators' involvement across multiple initiatives promoted changes in conceptions of literacy instruction; depth of understanding of literacy content; and student-centered, participatory teaching and learning pedagogy. (For this chapter, the term *literacy* encompasses reading, writing, speaking, and listening.) To document changes in conceptions, knowledge, and skills, we collected data throughout the life of the project to gather teacher educators' reflections on learning processes, changes in teaching practices, and student teachers' readiness to teach the new primary curriculum.

We addressed the following research questions:

- What was the impact of professional development on teacher educators' beliefs and practices?

- What was the impact of teacher educators' new practices on the student teachers' preparation to teach in the primary school?

- What were the barriers to implementation and sustainability of the revised mother tongue teacher education program?

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[2]   As of early 2018, more than 20 local languages were being used as languages of instruction in Ethiopia. READ-TA targeted seven of the most widely spoken languages of instruction. The pre-service teacher education program prepares student teachers to teach in the mother tongue used as the language of instruction in grades 1–8 in each of the nine regions of the country.

Background and Context of Primary Education in Ethiopia

Primary education in Ethiopia consists of eight years divided into two cycles: first cycle (grades 1–4) and second cycle (grades 5–8). Mother tongues commonly are used as a language of instruction in at least the first cycle of primary education. For example, during the READ-TA project, the regions of Tigray and Oromia[3] were using the regional mother tongue (Tigrinya and Afaan Oromo, respectively) as the language of instruction for grades 1–8. Other regions (i.e., Southern Nations, Nationalities, and Peoples Region [SNNPR]) introduced English as the language of instruction beginning in grade 5. In Amhara, Amharic was being used as the language of instruction to teach all subjects in primary grades except science and mathematics.

The results of Early Grade Reading Assessments administered in 2010 (Piper, 2010) and 2014 (RTI, 2014) were not very promising; many children were not able to read at grade level in their mother tongue. The READ-TA program supported the Ethiopian Ministry of Education in its efforts to develop a nationwide reading and writing program, particularly focused on the skills of children in grades 1–8 in the seven selected major mother tongues and in English. The overall goal of the READ-TA program was to boost the quality of literacy instruction and learning in the target languages and consequently to improve the reading outcomes of 15 million Ethiopian children.

The READ-TA program approach was a context-specific model of developing, implementing, and piloting educational reforms aimed at improving literacy instruction in Ethiopia in the target languages of instruction: Af Somali, Afaan Oromo, Amharic, Hadiyyisa, Sidaamu Afoo, Tigrinya, and Wolayttatto. Supports included the development of new primary curriculum and instructional materials, such as teacher guides and student textbooks for grades 1–8 in the target mother tongues. Another major goal of the READ-TA program support was to develop and revise the pre-service mother tongue teacher education program at colleges of teacher education. This chapter focuses primarily on the outcomes of this initiative,

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[3] Ethiopia has two chartered cities (Addis Ababa and Dire Dawa) plus nine national region states: Afar; Amhara; Benishangul-Gumuz; Gambela; Harari; Oromia; Somali; Southern Nations, Nationalities, and Peoples' Region (SNNPR); and Tigray.

which was the scope of work assigned to Florida State University (FSU) under the READ-TA project.

Pre-service Teacher Education in Ethiopia

The Learning Systems Institute at FSU was a partner to RTI International on the READ-TA program. At the beginning of the project, FSU conducted a baseline assessment of pre-service teacher education programs at colleges of teacher education in Ethiopia (RTI & FSU, 2013). The baseline report submitted to the Ethiopian Ministry of Education provided the background for the next phases of the project related to reforms in the pre-service teacher education program.

The FSU team was responsible for revising the pre-service Mother Tongue Language Program syllabi, course modules, and training for mother tongue teacher educators. Also, from 2013 to 2017, a team of specialists from FSU and their Ethiopian counterparts collaborated with the Ministry of Education, Regional State Education Bureaus, Zonal Education Bureaus, and colleges of teacher education to reform the Mother Tongue Language Program for pre-service teachers (which included both language and literacy skills instruction).

Student Teachers

At the end of grade 10, all students complete a national secondary school exit exam administered by the Ministry of Education. Students who score well are promoted to grade 11 to attend preparatory classes for tertiary education. Those students who perform poorly but manage to pass with the lowest scores are not permitted to proceed to grade 11 but rather are offered alternative educational routes, including primary pre-service teacher education. Colleges of teacher education enroll student teachers who have completed grade 10 of general education and provide a three-year training to teach primary school grades 1–8. The colleges mostly use the regional or local language as the language of instruction to prepare primary school teachers. Thus, across all regions, the student teachers enrolled in the three-year Mother Tongue Language Program at colleges of teacher education tend to exhibit basic literacy skills but may not be ready for higher education. They receive training using only the local language. Preparing knowledgeable and skilled mother tongue teachers for literacy instruction in this diverse language context was one of the challenges that the READ-TA program addressed with the government of Ethiopia.

Teacher Educators

In the Ethiopian context, most teacher educators hold an advanced degree (a Master of Arts or Science) in one of the education subjects, such as English, math, biology, or language, or in a field such as psychology or curriculum. The teacher educators who participated in the development, implementation, and training of the new course modules had not completed a program of study specifically related to literacy theory or pedagogy. Some teacher educators had experience in teaching at the primary or secondary school level, but most had not been prepared to teach early grade literacy. Only a few of them had completed individual courses related to reading instruction.

Although teacher educators brought many years of experience teaching courses at colleges of teacher education on reading and writing that focused on scanning, skimming, contextualization, and intensive and extensive reading, the newly developed primary curriculum included many new concepts and skills, such as the five components of reading (National Institute of Child Health and Human Development, 2000) and a gradual-release model ("I do, We do, You do"; Fisher & Frey, 2008; Rosenshine & Stevens, 1986). Teacher educators had no exposure to these new concepts before the READ-TA project started, and the teacher education courses were not aligned with the new primary school curriculum. As a result, the FSU focus was to impart practical information about literacy instruction as well as to introduce the pedagogy used in the new primary curriculum.

Process of Module Development

FSU supported the development of seven mother tongue course modules directly related to literacy instruction. Each of the seven modules was meant to be covered in a single-semester class (two to four credit hours) and to address a range of literacy theories and pedagogies. Student teachers typically enrolled in one to four of the newly developed modules[4] as part of their six-course semester load.

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[4] The modules were produced under the USAID READ-TA project (2012–2017), Cooperative Agreement No. AID-663-A-12–00013. They are available to the public from USAID's Development Experience Clearinghouse website, https://dec.usaid.gov. See RTI and FSU (2015a–2015b, 2016a–2016f, 2017a–2017b).

- MT [Mother Tongue] 201: Cognitive Development and Literacy Skills (Module 1). Introduces the theoretical framework for how children learn to read, write, speak, and listen. The five components of reading (and writing) are introduced and discussed thoroughly.

- MT 222: Teaching Reading and Writing in Primary Schools (Module 2). Provides opportunities for student teachers to learn how to teach skills and strategies in reading and writing, with due emphasis on the primary school mother tongue curriculum.

- MT 224: Methods of Teaching Speaking and Listening in Primary Schools (Module 3). Focuses on how children acquire a first and second language, and various instructional and assessment techniques for oral language (speaking and listening).

- MT 322: Assessing Literacy Skills and Differentiated Instruction (Module 4). Builds on the previous courses. The major objective of the course is to develop student teachers' ability to assess students' reading and writing skills and to use the assessment information to design instruction that meets the needs of diverse learners.

- MT 212: Introduction to Language and Linguistics of the Mother Tongue (Module 5). Teaches the student teachers about the characteristics of language and the structures of their mother tongue that affect literacy instruction.

- MT 223: Children's Literature in the Mother Tongue (Module 6). Allows student teachers to explore the different types of children's literature and to practice activities that support children's understanding of what they are reading. The module develops student teachers' competence in using children's literature to build the literacy skills of primary school students.

- MT 221: Developing Reading Skills in the Mother Tongue (Module 7). Supports student teachers' improvement in the skills needed to read, comprehend, synthesize, and process complex information found in the mother tongue course work.

These seven modules were fully developed, adapted to the seven mother tongues, and implemented at colleges of teacher education across all regions of Ethiopia. Each module was taken through multiple development steps with the support of stakeholders including teacher educators, the Ministry of Education, and regional and zonal staff representing the seven mother

tongues and five of the country's nine regions: Tigray, Oromia, Amhara, Somali, and SNNPR. Below were the steps taken for materials development.

1. *English module development.* A draft in English for each module was developed by the FSU team based on the national teacher education syllabi and primary mother tongue curriculum. The draft was then presented to the various stakeholders for review and revision. The course outline, objectives, contents, and proposed activities were further developed during a workshop for each module.

2. *Adaptation to the mother tongues.* A group of four to five representatives adapted the English version of the module to the mother tongues. The groups worked together for up to three weeks to ensure that proper adaptation (not translation) took place. During adaptation, teacher educators integrated activities and examples from the primary school mother tongue student textbooks and teacher guides developed under a separate component of the project.

3. *English and mother tongue module validation and post-validation revision.* Each module was validated by regional stakeholders listed previously. Their comments were reviewed, and each module was revised based on relevant and appropriate recommendations. Selected teacher educators led the validation workshops and completed revisions.

4. *Module training (co-trainer and participant).* More than 250 teacher educators received three- or four-day trainings on module contents. The trainings were provided by FSU reading specialists and mother tongue co-trainers, in both English and the mother tongue, with participants grouped by language. FSU reading specialists and mother tongue co-trainers modeled how to teach the module contents using various instructional techniques.

5. *Pilot implementation and monitoring and evaluation.* Modules were implemented at all colleges of teacher education by the trained teacher educators. The FSU team selected and trained teacher educators who monitored and evaluated the fidelity of implementation of the draft modules. During the monitoring, teacher educators were observed during a class session. A focus group discussion was conducted with selected student teachers who had attended the class, and an oral questionnaire was completed with the teacher educators. In addition, monitoring and evaluation included

assessment of proper use of an information and communication technology package (which included one projector, one document camera, and multiple tablets for teacher educators in the mother tongue program). Monitoring and evaluation reports were submitted to READ-TA and to the Ministry of Education on the implementation of each module in all seven mother tongues (Barnes, Zuilkowski, Mekonnen, & Ramos-Mattoussi, 2018).

6. *Module revision.* Based on the feedback from the monitoring and evaluation, the English module and each mother tongue module were revised by the representatives noted previously.

Literature Review

Research on the specifics of how teachers are educated (e.g., the content, pedagogy, and materials used in teacher education programs) is quite scarce, meaning that the topic may be undervalued (Brody & Hadar, 2011; Edmond & Hayler, 2013; Korthagen, Loughran, & Russell, 2006; Lanier & Little, 1986). Until recently little has been written about how student teachers experience their training programs. However, new theories and instructional methods have driven greater examination of the teacher preparation phase that occurs in colleges of education and the importance of understanding student teacher and teacher educator needs (Guskey, 2002; Guskey & Yoon, 2009; Lunenberg, Korthagen, & Swennen, 2007).

These new directions have influenced global interest (Ali, 2017; Hökkä, Vähäsantanen, & Mahlakaarto, 2017) in how theory is linked to practice, and the subsequent impacts on student teachers (Guskey, 2002; Korthagen et al., 2006; Moats & Foorman, 2003). As an example, in the United States, Clark, Jones, Reutzel, and Andreasen (2013) indicated that beginning teachers who completed a literacy teacher education program needed continuous support from teacher educators and additional training to competently meet the diverse needs of students in schools. Their findings and those of others (e.g., French, 1997; Joyce & Showers, 2002; Nkambule & Muheridzi, 2017) underscore the importance of conceptualizing teachers' learning as an ongoing process that must be supported by induction and continuous school-based and external teacher support systems.

It is important to recognize variations in both the timeline necessary for teacher change and the assimilation of knowledge and skills related to new practices. Veteran educators who have long-held beliefs may experience

cognitive dissonance. That is, these educators may perceive themselves as experts in the field, and yet their lack of knowledge of *new* practices places them in the uncomfortable position of being novices (Brody & Hadar, 2011; Van der Klink, Kools, Avissar, White, & Sakata, 2017). For some educators who are aware of the new practices, acceptance and implementation may be an easier process (Gulamhussein, 2013). While building on prior research on teachers' professional development, the analyses carried out for this chapter also contribute to the existing research by specifically examining how the teacher educators involved in READ-TA gained the knowledge and pedagogical skills to learn and teach research-based literacy instruction.

Professional Development of Teacher Educators

Although evidence has shown an impact of in-service teacher professional development on classroom teaching behaviors, much less is known about how pre-service teacher educators learn the skills of their profession (e.g., Vanassche & Kelchtermans, 2014). Therefore, this literature review includes research on preparation of both classroom teachers and teacher educators.

It remains unclear how teacher educators effectively respond to the demands of their profession and continue their professional development (Ferguson, 2006; Koster, Brekelmans, Korthagen, & Wubbels, 2005), what impact professional development has on the practices of teacher educators (Van der Klink et al., 2017; Vanassche & Kelchtermans, 2014), and to what extent professional development affects change in beliefs and practices. As noted at the beginning of this literature review, even though they are perceived to be the foundation of the educational system, teacher educators have not received attention from researchers (Brody & Hadar, 2011). Recent research has focused on the use of self-study (Hwang, 2014), teacher educators as researchers in their own contexts, and engagement in learning communities (Korthagen et al., 2006; McIntyre & Hagger, 1992). However, Brody and Hadar (2011) noted that there is no adequate account of how teacher educators learn using these processes and underlined the need for more research on teacher educators' professional development.

High-quality professional development is designed to produce systemic change in the practices and beliefs of teachers (Amado, Dalelo, Adomßent, & Fisher, 2017; Blazer, 2005; DeMonte, 2013; Guskey, 2002). Teachers participate in professional development to gain new knowledge and skills, enhancing their teaching practices with goals of professional growth and advancement.

They are seeking practical ideas that inform primary teaching (Fullan & Miles, 1992). However, many professional development programs fail to effect change on teachers' or teacher educators' practices and student teachers' learning, or they are perceived as "irrelevant" (Guskey, 2002; Kennedy, 2005; Lieberman & Mace, 2008). Short-term trainings not supported with follow-up capacity development and learning typically fail to bring the desired change in teachers' practices (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009).

While initial behavioral, attitude, and commitment changes may be observed, long-term change is often minimal (Guskey, 2002; Jones & Hayes, 1980; Ottley et al., 2015). However, when teachers observe positive outcomes as a result of their behavioral change, they are likely to continue those practices. One suggestion for improving implementation and sustainability is to involve teachers in planning sessions and to conduct initial surveys to align development with needs identified by educators (Guskey, 2002). The professional development activities for teacher educators in this study were created based on identified gaps in the educators' literacy knowledge and skills. As a result of the change in the primary school curriculum, new literacy content knowledge and instructional practices were included in the pre-service teacher education program. Findings from teacher education research helped identify what practices should be implemented to build content knowledge in literacy instruction (Hwang, 2014).

Modeling and Simulations

The extent to which a teacher can translate theory into classroom practices has been found to be a key factor in student learning (Blazer, 2005; Bold et al., 2017; Gulamhussein, 2013), despite assumptions that teaching individuals to become teachers does not require specific preparation (Zeichner, 2005). Emerging evidence indicates that teachers must be able to translate their content and pedagogical knowledge into classroom practice by using individual and group activities and providing specific feedback (Bold et al., 2017; Koster et al., 2005). Very few published studies have addressed how to prepare teacher educators effectively for these functions or what influence teacher educators' knowledge, skills, and practices have on student teachers' understanding and classroom practices (Lunenberg et al., 2007).

One body of knowledge supports the notion that teacher educators should model new techniques and provide time for student teachers to practice using

these techniques (Lindvall, Helenius, & Wiberg, 2018; Lunenberg et al., 2007): Modeling helps student teachers see the link between theory and pedagogy, connect their personal learning experiences with course content, and understand how to implement these practices. Immersion in real-world simulations using materials and specific concepts can powerfully affect student teacher learning (Darling-Hammond, 2006), and teacher educators should provide a continuum of practical activities and settings, ranging from the pre-service classroom to the primary school (Lampert, 2006, as cited in Ball & Forzani, 2009).

Korthagen and colleagues (2006) suggested that observations in primary classrooms, combined with conversations and student teachers' reflections, increase understanding of the link between pre-service course content and what happens in primary classrooms. However, what has been learned does not always work in "real life" classrooms (Hökkä et al., 2017). There are indications that, in the first year of teaching, changes in attitudes occur as a result of teaching practices in the school or the teacher's own experience in primary school: "Teachers tend to teach as they were taught, not as they have been taught to teach" (Blume, 1971, as cited in Lunenberg et al., 2007, p. 588).

Self-Reflection and Collaboration to Build Sustainability

In discussing how teacher educators can promote their own professional development and support student teachers' learning, Zeichner (2005) recommended that teacher educators should model self-reflective practices and develop similar habits among student teachers. Teachers and teacher educators accumulate educational experiences throughout their life (Hwang, 2014), and self-reflection helps them think about and evaluate the effectiveness of their practices (Schön, 1987). The self-reflection process facilitates knowledge enhancement, understanding of subject matter, the ability to learn and use research-based practices (Hwang, 2014), and critical reflection (Hökkä et al., 2017). As a result, linkages between practice and theory are strengthened (Korthagen et al., 2006).

Educators can also combine their knowledge, skills, and resources to develop collective identities and shared understandings (Hökkä et al., 2017), referred to as communities of learners (Lave & Wenger, 1991). The groups share common concerns and sets of problems and/or topics through ongoing interactions (Hadar & Brody, 2010; Wenger, McDermott, & Snyder, 2002). Educators may observe one another's teaching, provide feedback, and

work together to reflect on their practices, resulting in suggestions for enhancement and improvement (Hadar & Brody, 2010; Lunenberg et al., 2007). McLaughin and Talbert (2001) identified three main outcomes from collaboration: improvement in teaching practices, opportunities for personal and professional development, and a decrease in isolation.

Institutional Structure and Resource Availability

Educators' roles and tasks are embedded in the local institutional context (Hwang, 2014), which can support or impede implementation of new practices. The structure determines the available resources, working conditions, organizational structure, cultural expectations, teacher educator workload, and the student teacher population (Hwang, 2014; Vanassche & Kelchtermans, 2014). Many of these barriers to resource availability need to be addressed at the systemic level (national, regional, local) (Bold et al., 2017).

In sum, most of the literacy content and instructional practices introduced during the READ-TA project were new to most of the teacher educators. Moreover, in addition to learning the new mother tongue content and practices themselves, the teacher educators had to change their beliefs and instructional practices in terms of preparing school teachers. In our review of the literature, we found no conclusive evidence of large-scale professional development opportunities that had an effect on teacher educators' knowledge and practice. Some studies demonstrated gains in educators' knowledge and beliefs, while others reported a lack of impact (as cited in Ottley et al., 2015: LeMoine, 2008; Neuman & Cunningham, 2009; Whitebook & Ryan, 2011). The success of professional development activities also has been documented as varying among teacher educators as a function of educators' prior knowledge and ability to implement new practices. An educator's openness to change, motivation, self-efficacy, and self-confidence are good predictors of implementation (Ottley et al., 2015).

Changing beliefs is not an easy process; change takes time and can create anxiety and resistance to implementation (Guskey, 2002). Even when provided evidence that new practices work, teachers may still be reluctant to change until something happens to help them believe these practices will work. In addition, positive learning outcomes may be a prerequisite to significant changes in an educator's attitudes and beliefs (Guskey, 2002). It is also important to build partnerships among colleges, schools, and student teachers (Korthagen et al., 2006).

Methodology

Approach of the Case Study

The findings in this case study were drawn from data generated through monitoring and evaluation of teacher educators' and student teachers' use of new course materials, surveys, focus groups, anecdotal notes, and individual interviews. The objectives were to examine the impact of professional development on teacher educators' beliefs and practices, to assess the impact of these new practices on student teacher learning, and to identify barriers to implementation and sustainability of the newly revised pre-service teacher education curriculum.

Data Collection

The FSU team designed a set of data collection tools for each of the seven modules, including a classroom observation checklist, focus group discussion guides, a teacher educator survey, and a semi-structured interview guide (these data collection tools were prepared to address USAID's project goals and expectations; neither were the tools, and the related research questions, devised with a publication in mind nor was the study designed to address theory from the literature, per se). These data collection tools were piloted and revised to ensure clarity and accuracy in collection of the data.

The purpose of the monitoring and evaluation tools was to assess the fidelity of implementation for the field-tested modules and to identify any potential challenges with the content, activities, instructional approaches, and institutional resources. In recognition that English was not their first language, the teacher educators were given time to review the instruments and to provide suggestions (wording, revision of questions, etc.). Across module implementation, 78 classes were observed. Professional development evaluations, semi-structured interview questions, and additional focus group discussion guides were compiled for use during training sessions and materials development workshops.

Classroom Observations

Classroom observations were conducted by the FSU team and selected teacher educators. The observation checklists addressed how the contents of the modules were taught: instructional methods, activities, projects, questioning strategies, etc. The purpose was to gain insight into the actual implementation, including challenges and module content in need of improvement.

Focus Group Discussions

After each classroom observation, a group of student teachers participated in a focus group session. Student teachers discussed what they had learned, the effectiveness of activities, strengths and weaknesses of the module, and any additional concerns. Each focus group consisted of 10–12 student teachers (equally representing males and females) randomly selected to participate. In classrooms that included student teachers with disabilities, at least one such student teacher was selected for the focus group. Focus group discussions were also held with teacher educators at various times throughout module development and various training sessions.

Teacher Educator Surveys

Each teacher educator who was observed teaching completed a survey. First, each teacher educator was provided a copy of the survey questions in English and given time to read the survey and ask for clarifications. Then the teacher educator completed the survey. The purpose of this activity was to gather the teacher educators' perspectives on the module, what they felt worked and didn't work, and suggestions for revision.

Professional Development Evaluations

During each training session before module piloting took place, teacher educators were asked to complete a survey evaluating the quality and content of the training session.

Semi-Structured Interviews With Selected Teacher Educators

Semi-structured interviews were conducted in a one-on-one setting with 12 teacher educators representing the seven mother tongues. These teacher educators were selected based on their participation in a majority of the professional development and module development opportunities. The purpose of these interviews was to understand the teacher educators' views on the effectiveness of the different professional experiences provided throughout the life of the project and to elicit rich descriptions of how teacher educators reconceptualized literacy concepts and practices. Each teacher educator was given a copy of the questions to read and was encouraged to ask for clarification as needed. Interview questions probed content knowledge, reflections on experiences, and synthesis of new conceptual knowledge. In addition, the interview questions explored the teacher educators' perceptions of student teachers' learning and the student teachers' ability to apply new skills during microteaching, practicum, fieldwork, etc.

Table 2-1. Summary of participants

Data collector	Participants in project monitoring and evaluation classroom activities		Teacher educators selected for final semi-structured interviews
	Teacher educators involved in classroom observation and survey	Number of student teachers in focus groups	
FSU team	15	168 (14 groups)	12
Monitoring and evaluation data collectors	63	756 (63 groups)	0

FSU = Florida State University.

Participants

Participants in this case study included more than 350 stakeholders, teacher educators, and student teachers. Table 2-1 presents the participants who contributed the data included in this case study. These data points provided the richest information regarding the impact of the READ-TA project on teacher educators, student teachers, and systemic change. All teacher educators and student teachers gave oral permission to participate in the research activities.

Data Analysis

Data were collected and analyzed using a multifaceted approach. Monitoring and evaluation data for the modules were recorded using Qualtrics, a quantitative data analytic software. Interviews and focus group discussions were completed in both English and the mother tongue. When the data were collected in the mother tongue, the data collectors provided a summary in English for analysis. The data were then conceptually clustered in a matrix. Triangulation was achieved by comparing responses and identifying similarities and differences across the multiple data collection tools. These tools were used in all five regions and seven mother tongues.

Findings and Discussion

Research Question 1: What Was the Impact of Professional Development on Teacher Educators' Beliefs and Practices?

Before implementation of the READ-TA project, teacher educators commonly held a very simplified view of the teaching and learning of literacy skills. The teacher educators' new conceptualization of literacy,

however, included reading, writing, speaking, listening, and technology skills. Teacher educators discussed their changes in conception of their roles, beliefs, and practices. They stated that before the READ-TA project was implemented, their major instructional method was lecturing, and they derived the content from books that were not closely related to the primary school curriculum. The course content they taught focused primarily on theory. They reported that they had gained an understanding of what primary school teachers were expected to teach and recognized the importance of integrating the primary curriculum into the mother tongue courses at colleges of teacher education.

Teacher educators also were able to identify the new concepts that they were teaching. For example, they said that the first module introduced theories about how children learn to read, the five components of reading and writing, and the gradual-release model. Teacher educators stated that they had broadened their understanding of literacy beyond just reading and writing, and they recognized that teaching literacy skills is not a simple task. One teacher educator mentioned that before the READ-TA program, he used to think teaching reading meant reading aloud in front of the students or having students read silently and then asking comprehension questions. He explained that his view of reading had evolved to include learning to read and reading to learn. Teacher educators stressed that their primary task was developing the knowledge, skills, and strategies student teachers need to teach primary students.

To achieve this goal, many teacher educators recognized the importance of increasing their own content knowledge and applying what they learned to classroom pedagogy. New practices included connecting course content in colleges of teacher education with the recently developed primary school curriculum, preparing for instruction, developing and locating supporting materials, modeling research-based pedagogy, and modifying the vocabulary used in teaching materials to facilitate student teachers' understanding. Comments that teacher educators made regarding roles and tasks included (1) "[being] prepared for [and knowing] what to teach" and (2) "know[ing the] science of teaching primary school methods that are appropriate."

Module Development and Training

During 2014–2017, teacher educators actively participated in the READ-TA activities discussed in the introduction to this chapter, and they were able to cite many benefits. During module development and adaptation, for example, teacher educators emphasized the impact of their exposure to new research-based

practices and content-area vocabulary and said they had developed a deeper understanding of ideas, concepts, theories, and pedagogy. Teacher educators stated that, because of their experience under the READ-TA program, they (1) recognized the value of external cross-checking of materials; (2) appreciated individual differences in understanding materials, concepts, and theories; and (3) learned how to provide constructive feedback. They also recognized the value of editing and revising materials, as revision involved many discussions about the content and the mother tongue, which further deepened their understanding.

The respondents said they came to conceptualize adaptation as localizing the information to the sociocultural context rather than just translating the words from English to the mother tongue. Adaptation of words and phrases such as *literacy*, *think aloud*, *differentiating instruction*, and *voice* required an understanding of each term's meaning in both English and the mother tongue. Teacher educators engaged in many discussions (both among themselves and with the FSU team) to thoroughly understand new concepts and determine how to convey those concepts in the mother tongue. A recurring theme among teacher educators' statements was that they felt the process of module development was as intense as a graduate studies program.

Selected teacher educators involved in module development were co-trainers in their specific mother tongue for large-group module training. Taking a co-trainer role required a thorough understanding of the module concepts and the ability to clarify misunderstandings by the participants. Co-trainers learned how to conduct training, provide positive feedback, and manage teaching and learning activities with large groups. Training allowed for pedagogical practice, helped narrow knowledge gaps, and supported the transfer of knowledge and practices to classroom instruction in colleges of teacher education.

Instructional Methods

Teacher educators recognized effective pedagogical skills such as using explicit instruction, practicing literacy skills and strategy instruction through microteaching, and engaging in practicum and fieldwork. They also recognized the importance of modeling and giving student teachers time to practice using the primary mother tongue curriculum. They reported that they now must demonstrate how to teach primary school students, which they previously thought was too routine and below the academic sphere of a teacher educator.

The teacher educators confirmed that effective teaching methods and activities depended upon the needs of the student teachers, the content being

taught, and available instructional materials. Teacher educators reported that the most common instructional methods used in the colleges of teacher education were

- question-and-answer (Q&A) sessions and interactive lectures;
- working in pairs and in groups;
- direct/explicit instruction (gradual-release model);
- microteaching;
- practicum and fieldwork;
- individual and task-based work;
- audiovisual activities; and
- experience sharing and reflection.

While field visits were cited as a valuable component in pre-service teacher education, they appeared to have been uncommon (except in the case of practicum) due to the lack of transportation to primary schools located far from the colleges of teacher education. Figure 2-1 shows the general types of classroom practices that were observed during monitoring and evaluation.

Self-Assessment

Teacher educators assessed their own progress and performance through answering questions: "What new things did I learn?" "Where am I?" and "What do I need to know?" One teacher educator discussed his personal method of identifying areas for learning and setting learning goals before attending workshops. Teacher educators also assessed student teachers' progress in identifying knowledge gaps to inform instruction, and some teacher educators reported that they had begun to differentiate instruction in their own classrooms.

Collaboration

Teacher educators maintained that collaborative learning through discussions among team members during module development and adaptation helped them address misunderstandings about pedagogy and content, thereby supporting the development of communities of learners. Several teacher educators described how collaboration (including classroom observations and feedback) facilitated changes in beliefs and practices.

Figure 2-1. Teaching practices in Mother Tongue 201 classrooms in colleges of teacher education
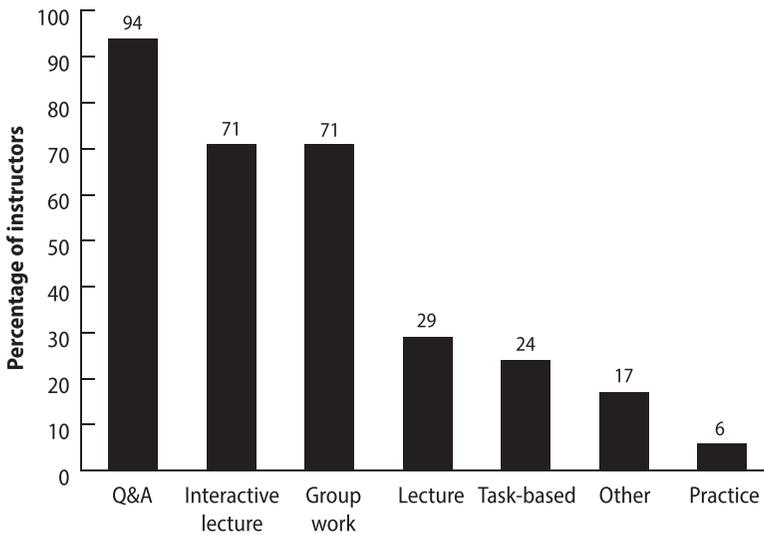
Q&A = question and answer.

Collaborative interactions emerged at both the college level and across regional and language barriers to support the exchange of ideas on the contents and activities of the modules as well as classroom practices among teacher educators. Due to inconsistent Internet connections and lack of access to social media, teacher educators most frequently used mobile phones and text messaging to communicate. Additionally, these collaborations resulted in the mentoring and, in some cases, training of new instructors on content and pedagogy and fostered feelings of shared responsibility and a willingness to learn from others. As a result, feelings of isolation decreased considerably for teacher educators in the Mother Tongue Language Program and at the colleges of teacher education.

Participation in the READ-TA project and in the communities of learners supported major shifts in teacher educators' conceptualization of reading and reading comprehension as well as their beliefs regarding the nature of reading in the mother tongue. Specifically, they moved from the idea that reading is a natural process requiring little effort from students and teachers to an understanding that reading is a developmental process that requires learning necessary skills and strategies that build comprehension. Building

communities of learners and collaborating across regional and language boundaries was identified by many teacher educators as the most influential aspect of the project.

Research Question 2: What Was the Impact of Teacher Educators' New Practices on the Student Teachers' Preparation to Teach in the Primary School?

Teacher Educators' Perceptions

Comments teacher educators made regarding what student teachers should know and be able to do included (1) "[be] well equipped with subject matter," (2) "make learners think for the future—visionaries," and (3) "make learners know and use [skills] in life. If [they] don't, [they] aren't learning." Some teacher educators also emphasized the importance of guiding student teachers through the process of translating learning theory into classroom practice. Teacher educators indicated that they had moved from a theoretical focus to using participatory, student-centered teaching and learning activities. Identified instructional methods included the use of presentations, discussions, and microteaching in the teacher education classroom. This process not only supported student teachers' preparation for fieldwork but also provided opportunities for teacher educators to give constructive feedback and for the student teachers to reflect on their teaching practices. Other practices used were group work, explicit instruction and the gradual-release model, and support to student teachers with disabilities. Important activities for building student teacher capacity included projects requiring application of learning, field experiences, and primary school visits.

Teacher educators reported that practice teaching in primary classrooms allowed for practical, hands-on, and realistic experiences in which misconceptions could be remediated. Teacher educators who observed the student teachers in primary classrooms stated that student teachers were confident and competent in their instruction, particularly in teaching reading fluency and comprehension strategies. The teacher educators believed that most student teachers who received the new training were prepared to teach despite some gaps in specific skills and strategies, inadequate support from primary teachers, and lack of primary materials. While these successes are a solid foundation for change, a need for additional support for student teachers remains.

In primary classrooms where the new materials were available, student teachers were observed using the new methods. However, in some instances, student teachers were placed in primary school classrooms where veteran

teachers continued to use the traditional methods and expected the student teachers to do the same. And yet, in classrooms in which the new primary materials were not available, some student teachers persisted in using the new methods and were able to sensitize other primary teachers on the new pedagogy. However, introducing new approaches did not always go smoothly. The teacher educators reported that dissonance had sometimes arisen between student teachers completing their practicum and their mentors. It remains to be seen whether these beginning teachers will continue to use the new practices or acculturate themselves to the traditional approach found in many primary schools.

There was a shared belief among teacher educators that the new Mother Tongue Language Program had resulted in improvement of student teacher quality and capacity for teaching (as compared with graduates from the past few years). Teacher educators described the impact on student teachers in terms of not only the student teachers' understanding of the new literacy concepts but also their reports of positive learning outcomes. Student teachers gained an understanding of the new primary school curriculum and felt successful during practicum. One teacher educator mentioned receiving a call from one of his former student teachers who wished to communicate gratitude for preparedness and competency in teaching the primary school curriculum. This teacher educator commented on the "very happy moment" when his efforts were recognized and resulted in the new teacher being able to effectively apply what had been learned to teach in the primary classroom.

Student Teachers' Perceptions

According to the student teachers, differences existed between the new courses and other courses in the program. The new courses prepared student teachers to teach primary students and informed them about what those students would need to learn and how to use differentiated instruction. They noted that the new course content used many new terms associated with literacy and other topics, requiring student teachers to learn and understand vocabulary and specific content knowledge related to literacy instruction. Student teachers appreciated the new pedagogy, which incorporated student-centered, participatory teaching and learning activities such as group discussions and explicit instruction. In the final round of site visits to colleges of teacher education, the FSU team heard student teachers begin referencing the information and communication technology package provided by the READ-TA program. Student teachers stated that the use of technology in the

Mother Tongue Language Program classes allowed the teacher educator to share resources with them via the projector and improved the learning experience.

Some student teachers had difficulty articulating their level of confidence in teaching children based on what they were presently learning. However, other student teachers stated that they could teach, use explicit instruction, and make learning enjoyable for children. Second-year student teachers had received some exposure to the primary school setting through observations during practicum. The student teachers who completed observations explained how the new course content prepared them for teaching in a primary school classroom. For instance, they commented that learning lesson planning was important for understanding what the teacher was doing, particularly when engaging students in cooperative learning activities.

Overall, student teachers recognized how information was connected across the new modules and generally agreed that the information would be important in their primary teaching career. Due to a lack of prior knowledge, the student teachers perceived modules' content as complex and relied on the teacher educators' support. However, most student teachers found the modules useful, practical, and highly relevant to instruction in the primary schools.

Research Question 3: What Were the Barriers to Implementation and Sustainability of the Revised Mother Tongue Teacher Education Program?

Institutional Obstacles

Barriers were identified at four institutional levels: government, college, teacher education classroom, and primary school. At the government and college levels, teacher educators cited class size, lack of necessary resources (technology, materials, and time), inadequate payment for professional development activities (they received per diem but not a professional fee), and a lack of opportunities for certification and advanced degrees. At the teacher education level, it was reported that some teacher educators did not develop a deep understanding of the new methodology and technology and did not have a personal commitment to learning about and implementing the new program.

Limited Resources

The need for resources was an ongoing issue throughout the project, especially access to teaching resources such as printed course modules for the

student teachers. Teacher educators had to adapt to this situation by requiring group work and sharing of the modules. The data revealed great variations in terms of resource allocation. At colleges of teacher education in some regions, there was only one printed module for every four to five student teachers, while at other colleges of teacher education, there was one module for each student teacher. This shortage added to the difficulties of small-group work and occasionally resulted in one or two student teachers completing the group activities while others passively waited for the activity to be completed. Several colleges of teacher education used their own resources to print copies of the modules for each student teacher; however, many had not yet received the final print-ready versions of the modules, which had been produced and distributed by the Ministry of Education and Regional State Education Bureaus.

Other resources that should have been available at the colleges of teacher education were the primary mother tongue curriculum and supplementary readers. Materials such as letter cards (or Fidel cards for languages with non-alphabetic scripts—two of the languages used in Ethiopia, Amharic and Tigrinya, are written with a version of the Ge′ez script known as "Fidel" and are also referred to as Saba-based languages), reference books, and journal articles would have further supported learning. A general need for basic classroom supplies such as whiteboards, chart stands, and markers existed at all colleges of teacher education. Hard copies of grades 1–4 materials were randomly available or personally procured by teacher educators, and hard copies of grades 5–8 materials were unavailable in either the colleges of teacher education or primary classrooms. Soft copies of grades 1–8 materials were uploaded to tablets supplied to most of the teacher educators; however, limited machine memory reduced the number of modules and materials that could be digitally stored.

Technology

Access to technology resources also proved to be challenging. The READ-TA program provided tablets for most teacher educators as well as one projector and one document camera for each college of teacher education in the five target regions. The projector and document camera were housed in a classroom designated as the sole mother tongue technology classroom at each college of teacher education. However, multiple classes were often scheduled during the same time period, and, while instructors had presentation slides, videos, and other resources that they could show to the class, most of the

colleges of teacher education had insufficient technology. Another factor related to the limitations of technology was the lack of and inconsistent availability of Internet access and utilities. Power outages and intermittent electricity were common features of colleges of teacher education in every region. Internet access was available at many colleges of teacher education but not in the classrooms. Student teachers requested more direct support: They wanted to become tomorrow's teachers who are able to teach "the right way."

Time

At the teacher education classroom level, the depth and breadth of the modules exposed the student teachers' lack of prior knowledge, resulting in classroom discussions that exceeded the allotted class time. In addition, many teacher educators were engaged in other READ-TA and Ministry of Education activities as well as other assignments that interfered with and reduced their instructional time. Student teachers said the modules were far too much to cover in a semester and added that certain areas need not be repeated from previous modules—although they also commented that multiple exposures were necessary for understanding new concepts.

Course Scheduling

Student teachers made recommendations regarding the sequence of courses in the Mother Tongue Language Program to facilitate understanding of the content and to distribute the course load across the program. Their comments indicated that the current schedule did not allow enough time to thoroughly learn the content of most modules. However, monitoring and evaluation observations revealed that many teacher educators lacked efficient time management and pedagogical strategies.

Fieldwork

Teacher educators also discussed challenges associated with student teachers' field experiences in primary schools. In some cases, colleges of teacher education were located very far from primary schools, and the colleges of teacher education did not provide transportation for field experiences outside of the formal teaching practicum. Also, student teachers often found that the primary schools to which they were assigned lacked books and mother tongue materials.

Collaboration

Once teacher educators engaged in communities of learners, they began scheduling time for collaborative meetings. Some deans and department

heads at the colleges of teacher education provided support in terms of collaboration time and space, while other deans and department heads declined supporting collaborative efforts by the teacher educators.

Misalignment of Practicum and Courses

The teaching practicum and the course assignments for the new mother tongue modules were not well-aligned, resulting in disparities between course and practicum requirements. Completing primary school–based projects or activities not related to the teaching practicum proved difficult for many student teachers given the distance from their colleges of teacher education and the need to coordinate the work with primary school staff. While some student teachers were able to complete the module projects or activities when they were at primary schools, others had to complete the projects via non-school-based activities. Often, projects and activities were skipped due to time constraints. It appears very unlikely that student teachers will carry out fieldwork while completing teacher education courses unless the practicums are revised to better match the field assignments in the new modules.

External Funding

Lack of funding was said to inhibit motivated instructors from completing advanced degree programs. Teacher educators recognized that information in their field was constantly changing, requiring continuous follow-up and learning. Teacher educators desired access to more information (research and textbooks) and wanted to build their depth of knowledge in active learning, brainstorming, gap lecture (question and answer), pedagogy, primary materials, assessment, and technology use.

Limitations

The findings reported herein were identified through the various data collected from teacher educators and student teachers. These items were selected by the FSU team based on evaluation tools found in the research, used in other programs, and adapted to the Ethiopian context. The data were collected by both the FSU team and selected mother tongue teacher educators. As a result, responses may have been affected by social desirability. The multiple data tools helped to triangulate the findings and identify changes in beliefs and practices. The current conclusions provide initial insights into the areas examined. It is recommended that follow-up activities be completed to determine what changes have been sustained since the completion of the project in December 2017.

Conclusions

Changing Teaching Practices of Teacher Educators

The major questions for this study included (1) What was the impact of professional development on teacher educators' beliefs and practices? (2) What was the impact of teacher educators' new practices on student teachers' preparation to teach in primary classrooms? and (3) What were the barriers to implementation?

The READ-TA project supported professional development focused on systematic change in beliefs and practices of teacher educators. The findings of the study revealed that most teacher educators had moved somewhat from teaching theory to integrating effective teaching practices, including linking their instruction to the primary curriculum. Previous studies on teacher educators' professional development also have reported changes in teacher educators' beliefs and practices regarding literacy when the instructional design considered two basic principles and practices of adult education: considering their background knowledge and giving them immediate opportunities to apply innovative ideas and practices (Hadar & Brody, 2016; Ottley et al., 2015).

Although shifts in teacher educators' literacy conceptions and practices were observed, the extent of the changes varied among teacher educators, and the change in literacy practices remained a work in progress. It is worth noting that teacher educators required repeated and continuous exposure to learn new literacy concepts and practices, and some teacher educators continued to raise questions of clarity on literacy concepts discussed in the first module in later workshops. Teacher educators' level of competence also appeared to influence the fidelity of the modules' implementation, supporting the findings of other researchers (Hwang, 2014; Korthagen et al., 2006).

Hökkä and colleagues (2017) found that learning communities provided a social context, which can be a natural and fruitful method of professional development for teacher educators. Learning communities evolved gradually from groups of teacher educators assigned to work on the module development and take part in trainings. At the beginning of the READ-TA initiative, teacher educators reported that they did not ask questions or appreciate the views of others, as they believed that their conceptions and knowledge of literacy were correct. However, over time, teacher educators reported that they developed skills they needed for collaborating and learning together among not only teacher educators who spoke the same mother tongue but also those

who spoke other mother tongues. This collaboration and change required a safe learning environment in which teacher educators were reminded that they could ask FSU specialists questions and should respect the views of their colleagues. This collaboration transcended discussion and sharing of ideas in workshop venues and transferred to collaboration within colleges of teacher education and to the training of others.

At the teacher education level, both employing reflective practices and engaging in discussions with other teacher educators improved implementation of new practices and student learning. Teacher educators used reflection to examine (1) implementation of research-based concepts and practices and (2) the impact on student teachers' learning. Some teacher educators also engaged in communities of learners, either informally or formally. They reported positive effects on personal identity, professional development, and the work environment. These findings confirm those of previous studies that continuously engaging in asking questions and using evidence from practice can lead to considerable changes in teacher educators' beliefs and behaviors (Harootunian & Yargar, 1980; Korthagen et al., 2006).

Teacher educators noticed changes in the practices of student teachers, which appeared in turn to strengthen the new practices of teacher educators, supporting Guskey's (2002) findings that observing improvement in students' behaviors reinforced changes in teacher educators' practices. Teacher educators also reported that student teachers appeared to be competent to teach the new primary school curriculum. However, as Hökkä and colleagues (2017) pointed out, the effects of pre-service teacher education programs on student teachers may not outlast the beginning years of teaching unless teachers are supported by sound professional development opportunities.

Barriers to new programs have been identified at many structural levels by other researchers (e.g., Hwang, 2014; Vanassche & Kelchtermans, 2014). This study identified similar concerns related to institutional structure at multiple levels (national, regional, and local), such as resource availability, lack of instructional time, teacher educator course overload, and student teachers' lack of prior knowledge. These repeatedly observed and reported resource scarcities could present a major barrier to implementation fidelity and sustainability of the revised Mother Tongue Language Program courses.

The data collection tools used in this case study were not originally designed with a research publication in mind; however, the information gleaned from the data collected consistently revealed themes relevant to multi-language literacy projects. Throughout the project and the research

process, FSU reading specialists spent time reflecting, noting, and discussing lessons learned and brainstorming ways to build success into future activities.

Recommendations

Based upon the Ethiopian context and experiences, the following major themes are presented as future recommendations for stakeholders, policy makers, and education program implementers.

Promote Ongoing Professional Development

Unless program-sponsored training workshops are supported by continuous professional development opportunities, introductory workshops, and access to resources and research, teacher educators will not have adequate professional preparation on the topic of training. A professional development training manual for new hires is also highly recommended, as teacher educators require a high-quality introduction to and repeated trainings on content and pedagogy. One-time training of each module for teacher educators had variable impact on knowledge development, even when participatory teaching and learning activities were implemented. Some teacher educators fully understood the major literacy concepts by the third or fourth training session, whereas others continued to exhibit misunderstandings about basic concepts even after four module training sessions (occurring at six-month intervals). In short, initial trainings must be paired with in-depth analyses of the content, followed by refresher workshops occurring at regularly scheduled intervals and activities to increase teacher educators' knowledge. An accountability component could motivate teacher educators to stay involved in training sessions and take responsibility for their own professional development.

Prepare for "Unlearning and Relearning"

Teacher educators need time to uncover their misconceptions, or "unlearning and relearning" (Cochran-Smith, 2003). Reflective skills develop slowly and through repeated exposure, and deep reflection can take place only when a person has a deep understanding of the concept. The teacher educators required months, if not years, to discover their misunderstandings—and doing so is a continual process. After having learned how much they did not know previously, these teacher educators reasoned that a much better version of the adapted materials would be possible if they were provided a final opportunity to review and revise all the modules.

Train the Trainers

Successful implementation of capacity development and materials preparation requires that teacher educators' prerequisite knowledge, beliefs, and skills be examined. Development workshops and initial trainings should build on prior knowledge for a core set of teacher educators, who could then be tasked with roles in major materials development (i.e., course modules) and teacher education–level training. Capacity building is more effective when a core team of individuals acquires content and pedagogical proficiency and then can train others. Findings from the study indicate that importing ready-made materials would have devalued the process of designing and developing course modules as a critical aspect of capacity development. Group work and discussions contributed to a more thorough understanding of literacy concepts and ideas, as well as pedagogical methods such as the gradual-release model.

Observe and Support

It is imperative for project technical teams to conduct field observations and provide continuous support throughout implementation. Firsthand information gleaned from observations can help the technical team understand contextual challenges and gather insights helpful for developing training materials and modules. In addition to field observations, teacher educators need continuous follow-up support and professional development opportunities conducted in both the mother tongue and English. Project implementers should consider exploring ways to engage stakeholders in development, execution, and ongoing support. A gradual-release model for these steps would allow skilled local trainers to slowly take responsibility for training and support as their knowledge grew.

Communities of Learners

Continuous professional development in the form of planned, recurring workshops and seminars at the teacher education level is suggested. This training could be similar to the English Language Improvement Centers and the Higher Diploma Program at colleges of teacher education (see Gebru, 2016, for details on these two programs). Teacher education–level institutionalization of formal professional learning communities would allow teacher educators to discuss and share ideas, engage in academic dialogue, become reflective practitioners, and continue their professional development.

Collaboration among the colleges of teacher education, the mother tongue pre-service program, and primary schools will be necessary to ensure that cooperating teachers support student teachers in applying the knowledge and practices that they gain in their pre-service education program. Collaboration across regions and languages should continue to ensure alignment across all teacher education mother tongue programs. Entities such as the Ministry of Education, Regional State Education Bureaus, and Zonal Education Bureaus could observe the implementation of completed modules and facilitate the revision of the remaining six mother tongue course modules that were not part of this project. Meetings, trainings, and seminars are all methods that these entities could use to provide ongoing support.

Work to Institutionalize Changes

Our evidence showed that the early changes in teacher educators' practices might not last unless they receive sustained support from all institutional levels while these innovative ideas and practices are institutionalized in colleges of teacher education. Collaborative time and activities should be allocated by the teacher education administration as part of the teacher educators' staff responsibilities. Professional learning communities could provide a means for teacher educators to receive support and build sustainability. Observations and evaluations would allow teacher educators to receive administrative and peer feedback. Highly skilled veteran teacher educators, with support from the Ministry of Education and Regional State Education Bureaus, could lead an initial orientation, continuous professional development trainings, and mentoring. In addition, teacher educators need more resources to support classroom instruction (i.e., modules, information and communication technology, supplementary materials, research, and reference books).

Conduct Further Research on Teacher Educators and Implementation of New Practices

Finally, although we examined the literature about teacher educators' knowledge, practices, and professional development needs, even after our analysis, we found gaps and several questions that remained to be answered. Future research should examine the factors most likely to result in implementation of new practices, to build capacity, and to ensure sustainability. This type of research will require modified thoughts about what roles teacher educators play within an education system and how those

roles affect professional development opportunities for teacher educators, teachers, and student teachers. All actors within an education system must recognize that in-depth change can take many years to implement. The focus should be on change that improves the practices of teacher educators and the student teachers they teach, including observations of new teacher educators and primary teachers to ensure they can implement the improved teaching practices they have learned.

Align Pre-service Teacher Education with Country-Based Policies

The READ-TA project provided technical assistance to design and develop the pre-service teacher-training mother tongue curriculum and materials in alignment with the primary curriculum and to train over 200 teacher educators on the new mother tongue language curriculum. Engaging the teacher educators in the development of these pre-service teacher-training modules, and providing them with training, support, and reading resources in the target languages, helped motivate them to adopt changes to their ways of teaching that resulted in positive outcomes, as reported by the teacher educators and student teachers. Teacher educators recognized the importance of connecting teacher education course content (modules) with the recently developed primary school curriculum. Many of the project interventions, including culturally and linguistically appropriate textbooks, along with pre- and in-service teacher training, were associated with positive impacts on student learning elsewhere (Popova, Evans, & Arancibia, 2016).

Policy Implications of Pre-service Teacher Education Reforms in Ethiopia

All the previous recommendations are pertinent to the context of the case study. However, ensuring long-term benefits of current reforms for the teaching life cycle will require continuous investment in the sector and the Ethiopian government's commitment to support proposed policies and goals set for the 2016–2020 education sector plan.

In its situation analysis, the next five-year Education Sector Development Program, for 2016–2020, identified structural education challenges, particularly "that children in primary first cycle were not developing the basic skills required to learn effectively in later years" (Federal Ministry of Education, Ethiopia, 2015, p. 17). Moreover, "the low quality of outcomes and persistent high dropout and repetition rates reflect low quality of educational inputs, i.e. skilled teachers, relevant teaching and learning materials, etc." (Federal Ministry of Education, Ethiopia, 2015, p. 19). The low educational

attainment in the country has serious implications for national development and economic growth.

The technical assistance that the READ-TA program provided to the government of Ethiopia during 2012–2017 aligned with both national education strategic plans (Federal Ministry of Education, Ethiopia, 2010, 2015).

Under the 2010–2015 strategic plan, the technical assistance corresponded to the priority of "Quality of Primary and Secondary Education" (p. 19), as follows:

1. Component: Teachers' and leaders' development. Target outcomes: (1) Qualifications of teachers significantly improved; and (2) Teaching processes rendered more effective through improved pre-service teacher training, in-service training and professional support. (p. 22)

2. Component: Curriculum, textbooks and assessment. Target outcome: (1) Revised school curriculum made responsive to international economic and social realities, national democracy and gender equity. (p. 22)

Under the 2016–2020 strategic plan, the project's technical assistance aligned with the key plan goal "General Education: Quality":

1. Component 1: Teachers' and leaders' development; subcomponent 2: Teachers' training and professional development. (pp. 55–60)

2. Component 2: Curriculum, teaching and learning materials; subcomponent 1, curriculum development; and subcomponent 2, teaching and learning materials. (pp. 63–65)

The two Education Sector Development Program plans also defined challenges related to the quality of education and set goals for investment in the sector. For instance, remaining challenges with relevance to the pre-service teacher education sector include (Federal Ministry of Education, Ethiopia, 2015):

- Regions with multiple languages of instruction and consequent implications for the quality and equity of education offered across the regions. (p. 58)

- Lack of pedagogical skills among teachers is the largest barrier to effective implementation of the revised curriculum. . . . The professional competencies of teacher educators are supported through the higher diploma program; however, this program does not yet equip teacher

educators with the skills required to provide training on modern teaching methods or other key pedagogical skills. (pp. 57–58)

- There exists no standardized method or national guideline for evaluation of teacher competency on completion of teacher training. Region-specific approaches are applied, and this has an impact on the consistency of knowledge and skills among new teachers graduating from colleges of teacher education and universities. (p. 57)

To address these challenges, the Ministry of Education developed specific lines of action in its Education Sector Development Program for 2016–2020, including the following:

- The government will . . . provide support to [improve] qualification processes and standards (pre-service training), enriching continuous professional development (CPD) and strengthening supervision processes (inservice training). (p. 57)

- During pre-service training, teachers will be prepared to teach in the language of instruction demanded by their expected deployment. Teachers of mother-tongue language subjects will be recruited from the local area to assure full mother-tongue proficiency. (p. 58)

- [Information and communication technology] will also be fully integrated in teachers' training courses and supported with practice so that teachers are better equipped to use technology and to teach and assist their students with technology. (p. 58)

- Pre-service training: Candidate selection processes for colleges of teacher education will be improved and minimum entry requirements established. (p. 57)

- The current gender imbalance among teacher trainees will be addressed with the objective of achieving, as soon as possible, a 50 percent share of women teacher trainees in new annual intakes to colleges of teacher education; and in ensuring retention of all teacher trainees. (p. 57)

- A strengthened evaluation process—and additional quality assurance—will inform improvements to teacher training in colleges of teacher education and universities supplying trained teachers. (p. 57)

- In addition to assuring the quality of service delivery through licensing teachers, colleges of teacher education will be accredited to certify that the standards for teacher education are met. (p. 73)

- Strengthening all colleges of teacher education to train pre-primary teachers for certificate and diploma courses so that they can deploy adequate qualified teachers. (p. 79)

By the end of the READ-TA project in December 2017, not all the above recommendations had been implemented. The implementation of the above plans set out by the Ministry of Education to strengthen pre-service teacher education at both teacher education and university levels by setting the standards for accreditation, preparing teachers to teach in the language of instruction, and providing them with the resources to succeed (i.e., instructional materials, skilled teacher educators, assessment tools, etc.) is still in progress. For instance, an increase in the number of female student teachers at colleges of teacher education was evident in the last year of the project, as was increased support for integration of information and communication technology into the pre-service program at colleges of teacher education.

Although we have not directly investigated the impact of the pre-service teacher professional development on the primary school teachers recently graduated from the teacher education three-year program, we may speculate that the overall READ-TA activities may have contributed to the attainment of the strategic plan's goals to improve general education quality, which are expected to improve children's literacy skills and boost achievement and economic productivity.

Acknowledgments

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