Conceptualizing Technology Professional Development for Non-traditional Teacher Educators: The Case of Primary Teacher Education in Malawi

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Abstract

There is an increased attention to technology professional development (hereafter, TPD) for teacher educators in many countries. However, it appears that how teacher educators are defined is likely to undermine recent research efforts stressing the importance of TPD that can build technology competencies for *all* teacher educators. Specifically, definitions of teacher educators limited to only those academic professionals in schools, colleges, and departments of education exclude other educators that can be categorized as *non-traditional teacher educators*. Based on literature review and policy study, this paper uses an illustrative case in Malawi to articulate TPD for non-traditional teacher educators. The findings show that roles of non-traditional teacher educators are similar to the roles of traditional teacher educators and in most cases, the two groups collaborate in teacher education. It is therefore argued that the aspects of TPD for non-traditional teacher educators should be like those for traditional teacher educators. However, a suggestion is also made that efforts to conceptualize TPD for non-traditional teacher educators should pay attention to the diversities of sub-groups that constitute non-traditional teacher educators. This is because non-traditional teacher educators illustrated in this case study perform other roles that are distinct from traditional teacher educators. By extending the definition of teacher educators to educators that are rarely identified as teacher educators in policy and research, this case study is insightful for current international research calls to identify professional development activities that can build technology competencies for *all* teacher educators. Limitations and implications for further research are also raised.

Key words: professional development; non-traditional teacher educators; technology integration; technology professional development; Malawi

Introduction

Instructional technology, which refers to materials and equipment used in the teaching and learning process, have been found to improve teaching and learning outcomes, promote equity, curriculum quality and relevance. Specifically, instructional technology helps the teacher explain new concepts clearly, resulting in better student understanding of the concepts being taught (Kadzera, 2006). Yet, the potential benefits of instructional technology partly depend on how technology is approached in teacher preparation programmes. According to UNESCO (2002), teacher education institutions and programmes must provide the leadership for pre-service and in-service teachers and model the new pedagogies and technology tools for learning. UNESCO (2002) adds that teacher educators' technology competencies count as "the most critical factor" in the successful integration of instructional technology into teacher education. However, teacher educators still face challenges to exemplify appropriate use of instructional technology in teacher education programmes, a situation that has prompted an increased attention to technology professional development (hereafter, TPD) for *all* teacher educators in many countries (Rizza, 2011; Foulger et al. 2017). There is also a growing literature in the field concentrating on various aspects of TPD, including technology competencies, programmatic issues, and the impact of TPD on teacher educators' technology integration (Uerz, et al., 2018).

Despite the increasing attention to teacher educators' TPD, it appears that how teacher educators are defined is likely to undermine recent research efforts (for example, Foulger et al., 2017) stressing the importance of TPD that can build technology competencies for all teacher educators. Teacher educators remain poorly understood notwithstanding their vital role in spearheading

education policy reforms (White, 2019) including those focused on instructional technology. The definition of teacher educators remains contested, as it 'depends on which country and work context you are located in; it depends on which position and perspective you take on the wider project of educating teachers, and it depends on individuals who either choose to identify or not, as a member of this group' (White, 2019, 200). However, two major approaches to defining teacher educators are evident in the literature. First, there are narrow definitions that describe teacher educators based on work context, for example only those working in teacher education institutions such as universities. To illustrate, Murray (2017) labelled as core or traditional teacher educators, referring to those who facilitate the learning of teachers and student teachers in higher education institutions and schools. This group is different from non-traditional teacher educators, that can include officials working in education ministries, departments of teacher education, teacher inspectors, and those employed by NGOs that organize workshops and other training activities for teachers (Mehlinger, 2000).

Second, there are inclusive definitions that identify teacher educators as all who facilitate the formal and informal learning of teachers and teacher candidates. This approach combines both traditional and non-traditional teacher educators, justified by considering that the 'task of educating a teacher is complex; it lasts throughout the teacher's career; and it requires the cooperation of a wide range of actors' (European Commission, 2013, 7). It is particularly argued that when we limit the definition of teacher educators to academic professionals in schools, colleges, and departments of education, we exclude other professionals who have a stake in teacher education (Mehlinger, 2000). However, Murray (2017) contends that inclusive definitions would dilute the professional aspect of teacher educators, especially the distinctive nature of their knowledge base, identity and skills. As such, most scholars adopt the narrow definition. For example, noting that some individuals involved in teacher education do not think of themselves as teacher educators and would be surprised to be given that label, Mehlinger (2000) defined teacher educators by considering only those who identify themselves as teacher educators.

The above-highlighted debate on narrow and inclusive definitions of teacher educators is related to the focus of this paper because the quest to have *all* teacher educators develop technology competencies requires continued discussions on definitions of teacher educators. From the debate, it can be argued that narrow definitions of teacher educators certainly limit a broader understanding of TPD of *all* teacher educators. Especially, the categorization of *traditional and non-traditional* teacher educators helps us understand the focus of current research on TPD for teacher educators. Uerz, et al. (2018) reviewed research on teacher educator technology competencies and found that the literature focuses on teacher educator competencies in using technology for teaching. Unsurpisingly, TPD activities also emphasize the development of teacher educators in their role as *teachers of teachers* (Lunenberg, et al., 2014). That is, TPD literature has often focused on traditional teacher educators involved in the actual teaching of teachers. Consequently, while the TPD of school-based and university-based teacher educators is taking shape, literature on non-traditional teacher educators is relatively absent despite the latter's significant role in instructional technology integration into teacher education.

Recognizing the limited research attention to TPD for non-traditional teacher educators, it is timely to start asking *who the non-traditional teacher educators are, what they do, and how their TPD might be conceptualized*. Clarifying the meaning of non-traditional teacher educators and conceptualizing their TPD is a necessary first step to generate knowledge about their relevant professional development activities. This paper addresses these questions and takes an inclusive definition to explore the conceptualization of TPD for non-traditional teacher educators using the case of a primary teacher education programme in Malawi.

In this paper, it is acknowledged that the definition of instructional technology depends on context and the concept has often been used interchangeably with other terms like Educational Technology, Educational Systems Technology or Instructional Systems Design. Some researchers have noted differences in how instructional technology is defined in developed and developing countries (Chitiyo, 2010). On one hand, conceptions of instructional technology in developed countries focus on modern technological tools such as internet, computer hardware and software for teaching and learning. On the other hand, in developing countries like Malawi and Zimbabwe, instructional technologies include all the materials and equipment such as the chalkboard, flip charts, overhead projectors, videos, and local resources that are used to enhance the teaching and learning process (Kadzera, 2006; Chitiyo, 2010). Since this paper uses the example of a teacher education programme in Malawi to conceptualize TPD for non-traditional teacher educators, it adopts the definition prevalent in the developing countries. Also, instructional technology is used interchangeably with technology. Based on this definition, TPD refers to activities that teacher educators must undertake to enhance their continuing improvement in their competencies such as using technology for teaching and learning.

The paper is outlined as follows. It begins with describing the context of study and the relevance of researching TPD for non-traditional teacher educators. Building on an illustrative case of a teacher education programme in Malawi and the literature on professional development of teacher educators, the paper discusses implications for practice and research regarding conceptualizing TPD for non-traditional teacher educators.

1.0 Context of the Study

As already noted, context shapes definitions of teacher educators. Some of the contextual aspects include conceptualizations of teaching about teaching and learning to teach (Loughran, 2014); how teacher education is conceptualized; the structure of teacher education; and professional standards that stipulate teacher educator competencies (White, 2019). The current paper is situated in the context of Malawi. This country case is valuable partly as a response to calls for more teacher education research from other contexts of Asia and Africa (Brown, 2017).

Like most countries around the world, Malawi is also experiencing manifestation of the Global Education Reform Movement (GERM) that positions technology as one of the drivers for contemporary education change (Sahlberg, et al., 2017). The ICT policy in Malawi highlights the necessity of integrating technology into educational development considering the profound transformation impacts of ICT at both economic and social levels all over the world (Malawi Government, 2006). Moreover, research shows that the country cannot do without the contribution of external actors in the formulation of national ICT policies (Kunyenje and Chigona, 2019). Therefore, immersed in the currents of globalization of instructional technology policy, a TPD study in the context of Malawi would offer insights into teacher education dynamics that might be different or might be same as other teacher education reform efforts around the world. In other words, research on teacher educators at country level context could create a basis for further international comparisons.

1.1 Teacher educators and their professional development in Malawi

Teacher educators as a profession and field of study in Malawi mirror experiences of teacher educators internationally. Policy demands and research discourse shape the definition of teacher educators through, among others, teacher educators' job requirements. Teacher educators are responsible for preparing schemes and records of work; preparing lesson plans and lecturing; assessing students' performance; and supervising students in the field on attachment for teaching practice (TSC, 2018). Furthermore, the National Standards for Teacher Education use 'tutor', 'lecturers' and 'teacher educator' to refer to those who teach in the Teacher Training Colleges (TTCs), while school-based teacher educators are mainly identified as 'mentors'(Ministry of Education, Science and Technology, [MoEST], 2016). Similar labels of primary teacher educators are also evident in the research discourse (Kadzera 2006; Mwanza, et al. 2016).

Meanwhile, the declining standards of education has led to calls for systematic staff development programmes to enhance the effectiveness of teacher educators in the teacher education institutions. However, there are limited opportunities for a systematized continuing professional development (CPD), promotion and rewarding of the professional growth of teacher educators (MoEST, 2018). Where available, CPD such as seminars and workshops tend to be isolated from each other, short-lived and there has been no system to monitor and evaluate the learning that teacher educators receive through such CPD (MoEST, 2018).

In response to the above-highlighted challenges, the Ministry of Education recommends more institutional-based professional development programmes, with a philosophical shift from short-term and workshop-based CPD to developing systematic processes that would lead to teacher educators' professional development as a continuum. Existing research also underscores the need for institutional structures that are supportive for change, especially improving the teacher educators' professional atmosphere as it relates to educational innovation in Malawi (Stuart, et al. 2000). Yet, although providing opportunities for teacher educators' professional development has been one of the policy aspirations, research with a view to inform sustainable and coordinated professional development is lacking. This paper therefore presents an opportunity for clarifying teacher educators' professional development in Malawi.

1.2 Technology and teacher educators

Available research in the country recommends a continuing technology education for teacher educators in all teacher education institutions, with emphasis on technology use as a thematic content area requiring urgent attention (Kadzera, 2006; Mtemang'ombe, 2017). Although the issues around professional development of teacher educators cut across the teacher education system, this paper purposively concentrates on primary teacher education because it has rich information that would adequately illustrate the TPD for non-traditional teacher educators.

Two important points are worthy highlighting concerning instructional technology integration into primary education in Malawi. First, researchers acknowledge that the potential, success and institutionalization of technology use in the country's education system ought to include engaging with challenges such as the necessity for teachers and teacher educators' TPD (Hollow and Masperi, 2009). Second, current technology integration initiatives are still donor-funded projects; hence, enterprises such as Non-governmental Organizations (NGOs) organize TPD workshops for teachers, teacher trainers and Primary School Education Advisors (PEAs). As it will be shown later in this paper, these points warrant the need for recognizing and conceptualizing TPD for

non-traditional teacher educators in Malawi.

2.0 Research methods

2.1 Data

This paper is a literature review part of an ongoing larger study aimed at exploring TPD for teacher educators in Malawi. For this paper, the researcher purposively selected the following publications: Lunenberg, et al. (2014), Uerz, et al. (2018), Ping, et al. (2018), Foulger et al. (2017) and Murray (2017). Ping, et al. (2018) and Uerz, et al., (2018) are recent review studies of what is known about professional learning of teacher educators and teacher educator technology competencies respectively. Foulger et al., (2017) is also a recent comprehensive work that sheds light on what teacher educators ought to know to integrate technology into their work. Whereas Murray was selected as one of the leading researchers on teacher educators (including definitions of teacher educators), Lunenberg, et al. (2014) is one of the major review publications discussing teacher educators' professional roles and behaviours.

In addition to the above publications, a specific criterion was set to guide the selection of other relevant papers. The first criterion was that the papers (book chapters and journal articles) should be those that focused on professional development of teacher educators. Secondly, the paper was limited to research published in English language and dated from 2000 after which there has been much research into teacher educators as a field of study (Ping, et al. 2018). The researcher sourced these articles from online databases (ERIC, Google Scholar and Web of Science) and directly from their journal websites.

For the illustrative case, the Initial Primary Teacher Education programme handbook (MoEST, 2014) was the main document, supplemented by the National Standards for Teacher Education and the CPD Framework for teachers and teacher educators in Malawi. The paper presents the primary teacher education programme as an instrumental case with features that can richly explain the phenomenon under investigation (Creswell, 2013). The other supplementary documents were appropriate for analysis because they spell government vision for teacher educators' professional development in the country.

2.2 Overview of the research process

The first step was a literature review on the definitions and professional development of teacher educators, which yielded the 'traditional' and 'non-traditional' broad categories of teacher educators (Murray, 2017; White, 2019). Secondly, by utilizing these broad categories, the researcher learnt that TPD has focused on traditional teacher educators, mainly aimed at building their technology competencies for teaching. Thirdly, from this background, the researcher identified a case to illustrate the definition of non-traditional teacher educators and conceptualize their TPD. Finally, the conceptualization of non-traditional teacher educators was a result of examining the illustrative case study and comparing it with the relevant research. Figure 1 summarizes the research overview.

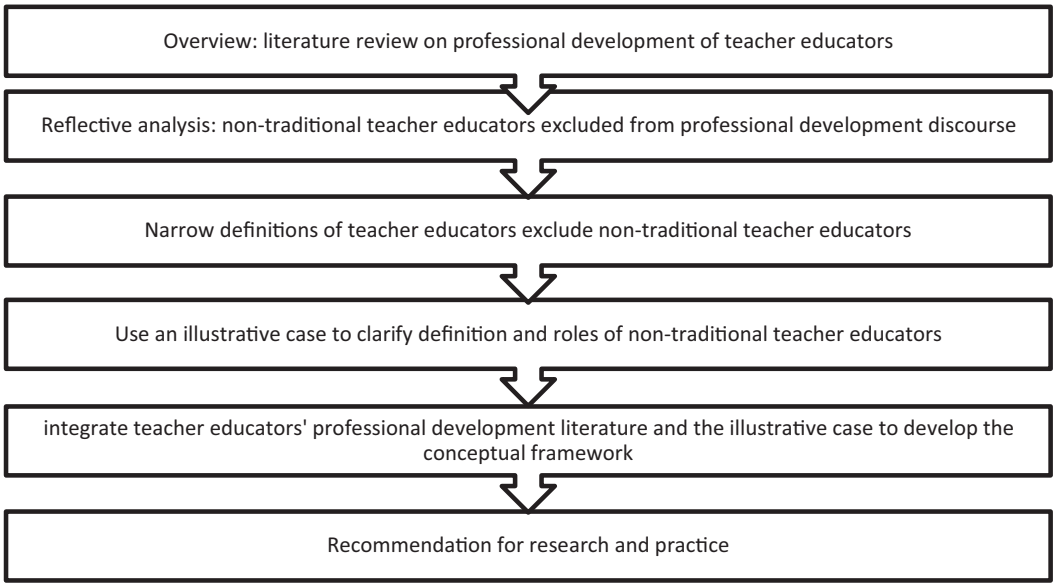

Figure 1. Overview of the research process, drawn with insights from Marek (2015)

2.3 Selection of the illustrative case

According to Creswell (2013), in an instrumental case study 'the intent is to understand a specific issue, problem or concern and a case or cases selected to best understand the problem' (99). In the context of Malawi, primary teacher education has rich information that would adequately illustrate the purpose of this paper. The researcher selected the Initial Primary Teacher Education programme, a two-year long course undertaken by student teachers to prepare them for the job of primary school teaching in Malawi. To conceptualize TPD for non-traditional teacher educators, the paper specifically pays attention to the partners that participate in primary teacher education and excludes the partnership between Teacher Training Colleges (TTCs) and teaching practice schools, which are sites for traditional teacher educators. Examples of the targeted partners that work together to support student teachers include Department for Teacher Education and Development (DTED), District Education Offices (DEO), and the Malawi National Examinations Board (MANEB).

2.4 Summarizing research papers and analysis

The researcher utilized an inclusive definition of teacher educators while acknowledging the practical impossibility of defining teacher educators as all those involved in teacher education. The paper clarified the roles of non-traditional teacher educators by comparing the roles and responsibilities of primary teacher education partners with Lunenberg, et al.'s (2014) six professional roles of teacher educators (see Tables 1 and 2). Next, to conceptualize a TPD of non-traditional teacher educators, a framework was drawn from aspects of professional development (Ping, et al. 2018). Aspects of TPD were identified by comparing the framework with the illustrative case (see Figures 2 and 3). These aspects also became headings and subheadings in the discussion section. Although the researcher made all the summaries, drafts of this paper were also shared during research seminars. This public sharing was an opportunity to clarify ambiguities and evidence used to support the conclusions of the paper.

3.0 Characterizing roles and responsibilities of non-traditional teacher educators: An illustrative case

The roles and responsibilities of teacher educators largely determine their professional development. In a review of literature on the professional roles and behaviours of teacher educators, Lunenberg, et al. (2014, 6) present an overview of professional roles of teacher educators and the professional development regarding these roles. Professional roles refer to 'a personal interpretation of a position based on expectations from the environment and on a systematically organized and transferable knowledge base' (6). Teacher educators perform one or more of the following roles: (1) teacher of teachers, (2) teacher educator as a researcher, (3) coach, (4) curriculum developer, (5) gatekeeper, and (6) broker (Lunenberg, et al. 2014). The authors acknowledged that the labelling of the roles varies across contexts. Table 1 summarizes definitions of each of these roles.

Table 1. Roles of teacher educators

Role	Definition
Teacher of teachers	Facilitating students' learning about teaching
Coach	Stimulating students learning process during teaching practice
Broker	Stimulating the cooperation between schools and teacher education institutions to facilitate mentoring
Researcher	Conducting research and utilizing research findings
Curriculum developer	Developing curriculum for teacher education
Gatekeeper	Taking part in admitting students to the teaching profession

Note: Adapted from Lunenberg, et al., (2014)

Important to note is that Lunenberg, et al. (2014, 5) defined teacher educators as 'all those who teach or coach (student) teachers with the aim of supporting their professional development'. However, they limited their definition to those working in schools and teacher education institutions. Thus, they identified professional roles mainly for the traditional group of teacher educators. In contrast, the present paper sought to extend the definition of teacher educators to those who do not work in schools or teacher education institutions but perform roles that significantly influence teacher education.

To clarify the roles of non-traditional teacher educators, Table 2 presents a comparison of the six roles against roles and responsibilities allocated to partners in the primary teacher education programme. The italicized items mean professional roles not they are not included in Lunenberg, et al.'s (2014) six professional roles.

Table 2. A comparison of Lunenberg's et al. (2014) professional roles and roles and responsibilities of IPTE partners

PARTNER	ROLES AND RESPONSIBILITIES	TEACHER EDUCATOR PROFESSIONAL ROLES (Lunenberg, Dengerink, and Korthagen 2014)
School Management Committee (SMC)	• Welcoming and supporting student teachers' settlement in the school and the community • assist school staff in guiding student teachers • assist in resolving disputes involving student teachers	• *community service* • broker • Coach
Department of Teacher Education and Development (DTED)	• take strategic leadership of the education of teachers in TTCs and in schools; • Organise the selection of students for initial teacher education; • make sure that TTCs identify schools for the placement of students • oversee the TTC-based training for college lecturers, head teachers, mentor teachers on mentorship • ensure that mentors are selected and appointed in good time for the school-based year; • monitor the progress of students in college and in school	• *policy actor;* gatekeeper • gatekeeper • Gatekeeper • *educator of TE* • broker • gatekeeper
District Education Manager (DEM)	• advise the TTCs on the choice of Teaching Practice Schools (TPSs); • support the supervision of students in TPSs; • respond to reports from head teachers on major issues relating to student teachers, e.g. poor formance, indiscipline cases, serious sicknesses, unjustified absenteeism, withdrawal, and • keep up-to-date records of students in the district	• broker • teacher of teachers • broker
Malawi Institute of Education (MIE)	• develop curriculum materials and monitoring instruments • prepare INSET for IPTE stakeholders.	• Curriculum developer • Teacher of teachers; educators of TE
Malawi National Examinations Board (MANEB)	• set final examinations for student teachers • set supplementary examinations • compute final grades for student teachers; • develop assessment guidelines for continuous assessment • ensure that assessment guidelines are consistently being followed so that grades are valid and reliable; • organise teaching practice moderation, and • award certificates to successful candidates.	• Gatekeeper • Gatekeeper • Gatekeeper • Gatekeeper • Gatekeeper • Gatekeeper • Gatekeeper
Primary Education Advisor (PEA)	• scrutinise the schools in the zone applying to be TPSs • ensure that student teachers are included in any CPD activities; • encourage student teachers to use the Teacher Development Centres (TDCs), library and support links between schools and TDCs, and • ensure that students are getting professional support from the head teacher and the school mentor	• teacher of teachers • teacher of teachers; coach • coach; teacher of teachers • CPD coordinator

Source: Ministry of Education, Science and Technology, IPTE Handbook and Lunenberg's et al. (2014)

While the programme handbook does not explicitly present the partners listed in Table 2 as teacher educators, juxtaposing their roles and responsibilities against the six categories of teacher educators' professional roles substantiate the recognition of the partners as teacher educators. For example, by ensuring that student teachers reach the competencies as defined in the teacher training programme standards, MANEB officials perform the role of gatekeeper. Again, the programme document clarifies the role of MIE officials as curriculum developers. Through their responsibility of ensuring that student teachers are included in any professional development activities, PEAs play the coaching role, which involves facilitating student teachers' learning. The DEMs also perform the coaching role by participating in the supervision of students' teaching practice.

However, other roles of the partners do not fit in the six professional roles. To illustrate, DTED plays the role of supporting not only student teachers but also teacher trainers who are in the TTCs. DTED oversees the TTC-based training for college lecturers, head teachers, and mentor teachers. In this way, DTED plays a role of 'educator of teacher educator'. MIE's responsibility of preparing curriculum materials for the lecturers' training is similar to DTED's role of supporting teacher trainers. Since the role of being educator of teacher educator is rarely discussed in the literature, little is also known about their professional learning and knowledge base (Lunenberg et al. 2017). This insight offers the opportunity to explore the professional development of educators of teacher educators such as DTED and MIE officials.

Secondly, DTED, MIE and DEMs lead teacher education policy; that is, they are expected to perform the role of policy actor. The literature (for example, Hadar and Brody, 2018) confirms that engagement with policy is one of the teacher educators' responsibilities by virtue of their professional knowledge in society. As thought-leaders in teacher education, teacher educators ought to be involved in national teacher education reforms and policy conversation, including curriculum development. Likewise, in Malawi one of the core competencies of teacher educators is that they should demonstrate understanding and application of education policies and practices (MoEST, 2018). Specifically for technology integration into teacher education, Foulger et al. (2017) suggest that teacher educators ought to engage in leadership and advocacy for using technology. Therefore, because there is little reported research examining teacher educators as policy actors, non-traditional teacher educators can aid our understanding of teacher educators as policy actors.

Furthermore, Lunenberg et al.'s (2014) categories of professional roles do not include the community's participation in teacher education. In the primary teacher education programme under study, the School Management Committee is a conduit for community participation. The community participation in teaching practice is particularly important because school surrounding communities provide rich field-based learning for student teachers. During teaching practicum, students experience leadership by participating in community development activities and other community-based organizations such as churches and sports clubs. Thus, a community as a 'learning site' deserves attention, including capacity building of the community members who support student teachers' practicum. The capacity building in question will take a different turn when we identify the community members as teacher educators. In countries like Canada and Australia, a group of community leaders that plays an important role in preparing teachers to understand social and cultural diversity is identified as 'community-based teacher educators' (White, 2019).

Granted the above juxtaposition, the teacher education stakeholders are non-traditional teacher educators in need of specialized knowledge to perform their job well. While the stakeholders have diverse backgrounds in terms of experience and knowledge, it is easy to assume that they already know their work of contributing to teacher education. Of course, most of the partners have experience of school teaching before occupying their current positions in the education system and they often rely on that experience to perform their role in teacher education. However, they perform their roles not based on training but promotional interviews and experience, although there are arrangements of orientation workshops to brief them about their roles in the primary teacher education programme. Building on this illustrative case, and in the absence of conceptual models of how professional development for non-traditional teacher educators can be executed, the next section conceptualizes a professional development for non-traditional teacher educators particularly in the domain of technology integration.

4.0 How might the TPD of non-traditional teacher educators be conceptualized?

4.1 The professional development of teacher educators

When we identify primary teacher education stakeholders as teacher educators, it is possible to conceptualize their TPD within the extant literature on the professional development of teacher educators. Discussions around the professional development of teacher educators have among others shown the professional needs of teacher educators (Flores, 2018; Loughran, 2014; Smith, 2005), and factors that enhance effectiveness of professional development activities for teacher educators (Ben-Peretz, et al. 2010; MacPhail et al. 2018). Ping et al. (2018) suggest the following aspects of professional development for teacher educators: activities, content and reasons for engaging in professional development. Other researchers have also highlighted the impact of participating in a professional development programme (Borg, et al., 2018). Figure 2 illustrates research characterizing teacher educators'

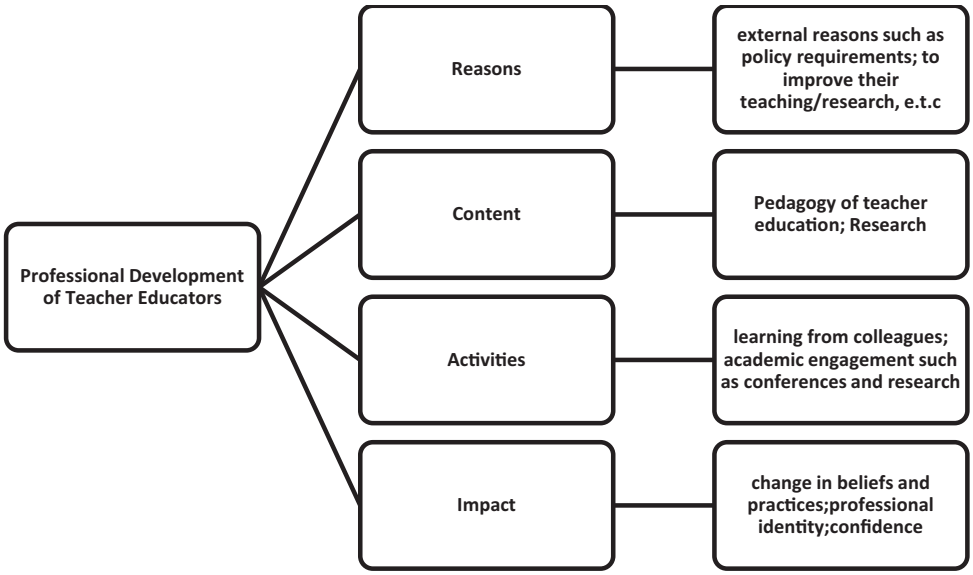

Figure 2. Framework for analysing professional development of teacher educators, created by the researcher based on

professional development.

4.1.1 Reasons for participating in professional development

Teacher educators participate in professional development activities in order to respond to policy imperatives such as changes in requirements for entering the teacher educator profession. In Malawi, the need for teacher educators' professional development has come against the background of inadequate skilled teacher educators (MoEST, 2008). MoEST planned to raise the minimum qualification of teacher educators to a university degree, and the formulation of the national CPD framework for teachers and teacher educators is an effort to operationalize this policy direction (MoEST, 2018). The other reason for participating in professional development activities is when educators want to make their practice relevant to teacher candidates, especially their practice of research, teaching or community engagement (MacPhail et al. 2018).

Similarly, policy imperatives are the main reason for teacher educators' participation in TPD. Policy discourse maintains that preparing teacher educators in technology integration enhances the preparation of both serving and preservice schoolteachers to integrate technology into their teaching (Rizza, 2011). Thus, the fundamental purpose of TPD is to equip teacher educators with the requisite skills to implement technology integration policy imperatives. In Malawi, the CPD framework stipulates the core competencies expected from any professional development program targeting teacher educators (MoEST, 2018) and the National Standards for Teacher Education identify technology proficiency as a desirable competence for teacher educators (MoEST, 2016).

4.1.2 Content of the professional development activities

Teacher educators learn about pedagogy of teacher education, research and reflection, beliefs and values, and professional identity (Ping, et al. 2018). Pedagogy of teacher education involves teaching about teaching and learning how to teach, and the content may include assessment, reflection or diversity in teacher education. Related to content, scholars agree that to teach about teaching, teacher educators ought to model the practice they expect their teacher candidates to enact (Swennen, et al. 2008).

Regarding content of TPD, knowledge frameworks such as the Technology Pedagogical Content Knowledge (TPACK) serve as useful guides. According to Mishra and Koehler (2006, 1017), the TPACK model '… attempts to capture some of the essential qualities of teacher knowledge required for technology integration in teaching, while addressing the complex, multifaceted, and situated nature of this knowledge'. The model incorporates content, pedagogy and technology as the three main elements of learning environments and suggests how they interact. TPD activities aim at fostering specific competencies required for teacher educators' technology integration (Foulger et al. 2017; Uerz, et al. 2018). In a review of literature on teacher educator technology competencies, Uerz, et al. (2018, 21) identified four domains of competencies: 'technology competences, competences in pedagogical and educational use of technology, beliefs about teaching and learning, and competences in innovation and professional learning'.

4.1.3 Teacher educators' professional development activities

In a study of professional development needs and activities of teacher educators in England, Ireland, Israel, Norway, Scotland and The Netherlands, MacPhail et al. (2018) found that teacher educators learn from different activities, including academic engagement such as doing research or attending conferences, self-study, collaboration with colleagues, and through formal and informal programmes. The case of the United Kingdom where teacher educators on entering the university enrol into the Post Graduate Certificate in Higher Education exemplifies teacher educators learning through a formal programme (Murray, 2010). Other teacher educators have voiced out mentoring, communities of practice and induction as important professional development activities (Eliahoo, 2017). The significance of understanding formal and informal routes, as well as individual and group domains of professional development for teacher educators is also highlighted in research (Karagiorgi and Nicolaidou, 2013; Loughran, 2014).

In TPD activities, workshops seem to dominate the literature. Chitiyo (2010) suggested that teacher educators benefit from faculty exchange programs, professional associations of teacher educators, in-house training of technologists and technicians and joint workshops for faculty and staff. There is also empirical evidence for the use of one-on-one coaching, and teacher educators' collective learning in communities of practice (Teclehaimanot and Lamb, 2005).

4.1.4 The impact of participating in professional development activities

There are numerous self-reported impacts of professional development programmes on teacher educator practices, beliefs, attitudes and skills. Borg et al. (2018) reported a professional development programme that sought to impact on Myanmar Education College teacher educator competencies and found that teacher educators showed 'measurable and visible progress in their English proficiency, knowledge of teaching methodology, confidence, teaching skills and basic reflective competence' (84). Similarly, Teclehaimanot and Lamb (2005) developed and implemented a professional development programme in form of workshops aimed at enhancing teacher educators' capacity to model technology integration among teacher candidates. Evaluation of the programme showed that teacher educators had improved their technology integration.

It is reported that the impact of professional development programmes depends on consideration of some principles. Effective professional development activities for teacher educators are 'extended, ongoing, inquiry-driven, reflective, job-embedded and [utilize]collaborative strategies for enhancing teachers' knowledge and practices' (Borg, et al. 2018, 48). To be extended and ongoing means that the activities run throughout one's professional life. Embedding inquiry and reflective practice in professional development activities is particularly singled out as a foundation for the ongoing professional development of teacher educators (Loughran, 2014). This is because teacher educators' capacity to conduct research and use research findings is fundamental for promoting inquiry-based attitude, which in turn facilitates teachers' ongoing professional learning for improving their teaching performance (Meijer et al. 2017). The activities ought to be in line with school policy, build on existing teachers' practices (Borg, et al. 2018), and conceptualize teacher education 'as holistic and integrated…focused on problem-solving' (Goodwin and Kosnik, 2013, 343). Likewise, effective TPD require institutional support in terms of funding and other incentives (Uerz, et al. 2018; et al. 2018), adequate time, integration of hands-on practice, project-based approach, and employ modelling by educators (Teclehaimanot and Lamb 2005).

4.2 Conceptualizing TPD for non-traditional teacher educators

Given the necessity of ensuring that all teacher educators have technology competencies (Foulger et al. 2017; Foulger, et al. 2016), how would a TPD for the non-traditional teacher educators look like in terms of content, form or rationale? In the previous sections, this paper has shown that the professional roles of traditional teacher educators are almost similar professional roles with non-traditional teacher educators, and in most cases the two groups collaborate in the teacher education enterprise. Some non-traditional teacher educators also spearhead teacher education policy, including curriculum and quality control. To borrow Goodwin and Kosnik's (2013) phrasing, the irony in this stark juxtaposition between roles and knowledge base of traditional teacher educators versus non-traditional teacher educators cannot be ignored. Should the notion of TPD for traditional teacher educators be the same as those for non-traditional teacher educators?

This paper suggests that the TPD of non-traditional teacher educators can be mapped by utilizing inclusive definitions of teacher educators and learning from relevant research about professional development of teacher educators. Figure 2 is a useful analytical framework for conceptualizing (research, designing or evaluating) TPD for non-traditional teacher educators. Then, Figure 3 replicates Figure 2 to show the TPD of non-traditional teacher educators.

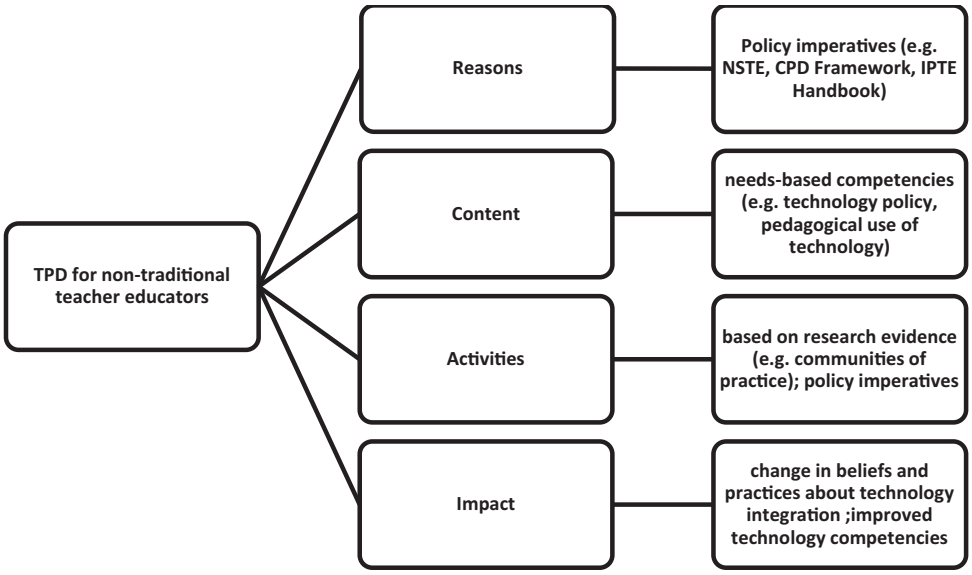

Figure 3. TPD for non-traditional teacher educators

From Figure 3, policy imperatives would be the primary reason for non-traditional teacher educators to participate in TPD. Policies drive the fundamental purpose of teacher educators' professional development, regardless of contexts. For instance, the Malawi National Standards for Teacher Education identify technology proficiency as a desirable competency for college-based teacher educators, a requirement that can extend to the primary teacher education partners as non-traditional teacher educators. For professional development content, the current competence-based professional development policy framework is a useful guide. That is, as the country's CPD framework articulates the core competencies of TTC-based teacher educators, it can also extend to other primary teacher education stakeholders.

Then, by drawing upon principles of effective professional development activities, a search for specialized knowledge of the primary teacher education partners as teacher educators should start from the current practices in the country's teacher education system. In other words, TPD activities (in form of the teacher educators' learning preference) and content should start from the needs and practices of the non-traditional teacher educators themselves. Effective professional development begins from teacher educators' existing knowledge, needs, practices and how they identify themselves (Borg et al. 2018; et al. 2010). Valcke et al. (2017) also observe that teacher educators' actual practice should be the starting point in conceptualising their professional development.

5.0 Implications and limitations

This study was set to conceptualize TPD for non-traditional teacher educators using the case of a primary teacher education programme in Malawi. To understand comprehensively the dynamics of institutionalizing TPD for *all* teacher educators, a common conceptual understanding of teacher educators and their TPD is necessary. Findings reported in this paper contribute to the development of newer inclusive definitions of teacher educators that are still in infancy, premised on the consideration that scholarly conversations around definitions are necessary because conceptual definitions have significant influence on practice.

Based on the discussions in this paper, contexts with teacher education programmes similar to the present case study might benefit from inclusive definitions of teacher educators as basis for mounting TPD for *all* teacher educators. Inclusive definitions would be helpful where technology integration efforts involve multiple stakeholders, as it is currently the case in Malawi where such efforts are still in the form of projects supported by NGOs. Since the NGOs organize technology workshops and other training activities for teacher educators, recognizing employees of these NGOs as teacher educators means that their TPD activities should also draw upon a systematically organized and transferable knowledge base. Related to this, the paper has highlighted that the primary teacher education in Malawi values the important contribution of community members to educating teacher candidates during teacher practicum. This finding is a step towards resolving White's (2019) concern that more research needs to be done on community-based teacher educators '…as yet there is little understanding or recognition of their role and work as contributing teacher educators' (208). Another recommendation emerging from this paper is that, learning from the role of the Department of

Teacher Education in Malawi, more research needs to be done on the professional development of educators of teacher educators. Additionally, considering the role of policy context in shaping teacher educators' professional identity, it is worthwhile to explore the nature of teacher educators' technology professionalism through policy gaze in Malawi.

However, the review is limited in terms of scope and focus. The reviewed research papers were purposively selected, which limits the transferability or generalisability of research findings. Furthermore, while the study was set to conceptualize the TPD for non-traditional teacher educators using a case of the primary teacher education partners, it is unlikely that the partners might recognize themselves as teacher educators. This is premised on the problematic nature of who recognizes, owns and enacts the definition of a teacher educator, as asserted by Murray (2017). In this paper, the identification of teacher education partners as non-traditional teacher educators is according to the policy documents and the researcher, but it is certain the same may not be the case from the perspective of the partners themselves, policy makers or student teachers. The follow-up of this conceptual paper is an exploratory study of technology professional development for teacher educators in Malawi.

6.0 Conclusion

This paper draws upon relevant research and an illustrative case to demonstrate how TPD for non-traditional teacher educators can be executed. The paper has shown that, in Malawi, teacher education takes place in diverse ways and sites, involving multiple stakeholders such as NGOs and officials in education departments. By comparing professional roles of traditional teacher educators with the roles of teacher education partners as non-traditional teacher educators, it has been observed that the two groups have similar roles. Therefore, the paper argues that TPD for non-traditional teacher educators should be similar to the one for traditional teacher educators. However, a suggestion is also made that efforts to conceptualize TPD for non-traditional teacher educators should pay attention to the diversities of sub-groups that constitute non-traditional teacher educators. This is because non-traditional teacher educators illustrated in this case study perform other roles that are distinct from traditional teacher educators. By extending the definition of teacher educators to educators that are rarely identified as teacher educators in policy and research, this case study is insightful for current international research calls to identify professional development activities that can build technology competencies for *all* teacher educators.

7.0 References

Ben-Peretz, M., et al. (2010), Educators of Educators: Their Goals, Perceptions and Practices, *Professional Development in Education*. https://doi.org/10.1080/19415250903454908.

Borg, S., et al. (2018), Having an EfECT: Professional Development for Teacher Educators in Myanmar, *Teaching and Teacher Education*. https://doi.org/10.1016/j.tate.2018.02.010.

Borthwick, A. C., and Hansen, R. (2017), Digital Literacy in Teacher Education: Are Teacher Educators Competent?, *Journal of Digital Learning in Teacher Education, 33*(2), 46-48. https://doi.org/10.1080/21532974.2017.1291249.

Brown, G. (2017), What We Know We Dont Know about Teacher Education, In *The SAGE Handbook of Research on Teacher Education*, 123-38. Sage Publications.

Chitiyo, R. (2010), The Conceptualization of Instructional Technology by Teacher Educators in Zimbabwe, *Education and Information Technologies, 15*(2), 109-24. https://doi.org/10.1007/s10639-009-9099-7.

Eliahoo, R. (2017), Teacher Educators: Proposing New Professional Development Models within an English Further Education Context, *Professional Development in Education, 43*(2), 179-93. https://doi.org/10.1080/19415257.2016.1178164.

European Commission (2013), Supporting Teacher Educators, *Education and Training*. https://doi.org/10.1007/978-3-540-49527-7_2.

Flores, M. A. (2018), Tensions and Possibilities in Teacher Educators' Roles and Professional Development, *European Journal of Teacher Education, 41*(1), 1-3. https://doi.org/10.1080/02619768.2018.1402984.

Foulger, T. S. (2017), Teacher Educator Technology Competencies, *Journal of Technology and Teacher Education*. https://learntechlib.org/primary/p/181966/.

Foulger, T.S. (2016), The Time Is Now! Creating Technology Competencies for Teacher Educators, *Journal of Technology and Teacher Education, 24*(3), 249-56. https://www.learntechlib.org/p/174099.

Gallagher, T. (2011), Establishing and Sustaining Teacher Educator Professional Development in a Self-Study Community of Practice: Pre-Tenure Teacher Educators Developing Professionally, *Teaching and Teacher Education, 27*(5), 880-90. https://doi.org/10.1016/J.TATE.2011.02.003.

Goodwin, A. L. and Kosnik, C. (2013), Quality Teacher Educators = Quality Teachers? Conceptualizing Essential Domains of

Knowledge for Those Who Teach Teachers, *Teacher Development*. https://doi.org/10.1080/13664530.2013.813766.

Hadar, L. L., and BrodY, D. (2018), Individual Growth and Institutional Advancement: The in-House Model for Teacher Educators' Professional Learning, *Teaching and Teacher Education*. https://doi.org/10.1016/J.TATE.2018.06.007.

Hollow, D. and Masperi, P. (2009), An Evaluation of the Use of ICT within Primary Education in Malawi, *2009 International Conference on Information and Communication Technologies and Development, ICTD 2009 - Proceedings*. https://doi.org/10.1109/ICTD.2009.5426707.

Kabakci, I., et al. (2010), Transformative Learning-Based Mentoring for Professional Development of Teacher Educators in Information and Communication Technologies: An Approach for an Emerging Country, *Professional Development in Education, 36*(1-2), 263-73. https://doi.org/10.1080/19415250903457224.

Kadzera, C. M. (2006), Use of Instructional Technologies in Teacher Training in Malawi (Unpublished Ph. D. Dissertation), Virginia Polytechnic Institute and State University. https://vtechworks.lib.vt.edu/bitstream/handle/10919/27728/Dissertation-Kadzera.pdf?sequence=1&isAllowed=y.

Karagiorgi, Y. and Nicolaidou, M. (2013), Professional Development of Teacher Educators: Voices from the Greek-Cypriot Context, *Professional Development in Education, 39*(5), 784-98. https://doi.org/10.1080/19415257.2012.746719.

Koster, B. (2005), Quality Requirements for Teacher Educators, *Teaching and Teacher Education, 21*(2), 157-76. https://doi.org/10.1016/J.TATE.2004.12.004.

Kunyenje, G., and Chigona, W. (2019), External Actors in Forming National ICT Policy in Malawi: A Cause for Concern in Low-Income Countries ?, *The African Journal of Information Systems, 11*(1). https://digitalcommons.kennesaw.edu/ajis/vol11/iss1/2/.

Loughran, J. (2014), Professionally Developing as a Teacher Educator, *Journal of Teacher Education*. https://doi.org/10.1177/0022487114533386.

Lunenberg, M. (2014), *The Professional Teacher Educator: Roles , Behaviour , and Professional*. Springer Science & Business Media.

Lunenberg, M. (2017), Collaborative Teacher Educator Professional Development in Europe: Different Voices, One Goal, *Professional Development in Education, 43*(4), 556-72. https://doi.org/10.1080/19415257.2016.1206032.

MacPhail, A.,et al. (2018), The Professional Development of Higher Education-Based Teacher Educators: Needs and Realities, *Professional Development in Education*. https://doi.org/10.1080/19415257.2018.1529610.

Malawi Government (2006), *Malawi National ICT for Development (ICT4D) Policy*, Malawi.

Marek, M. (2015), Conceptual Manuscript Outline. Available at https://doi.org/10.13140/RG.2.1.4962.5768.

Mehlinger, H. D. (2000), The Impact of Technology on the Roles and Responsibilities of Teacher Educators, In *Log On or Lose Out: Technology in 21st Century Teacher Education. AACTE Conference Proceedings*. Cupertino, California: American Association of Colleges for Teacher Education.

Meijer, M., et al. (2017), Professional Development of Teacher-Educators towards Transformative Learning, *Professional Development in Education, 43*(5), 819-40. https://doi.org/10.1080/19415257.2016.1254107.

Mishra, P. and Koehler, M. (2006), Technological Pedagogical Content Knowledge: A Framework for Integrating Technology in Teacher Knowledge, *Teachers College Record, 108*(6), 1017-54. https://doi.org/10.1111/j.1467-9620.2006.00684.x.

Ministry of Education, Science and Technology (MoEST) (2016), National Standards for Teacher Education in Malawi, Draft Version. Lilongwe.

MoEST (2008), National Strategy for Teacher Education and Development, Version 1. 2007-2017. Lilongwe.

MoEST (2018) Continuing Professional Development Framework for Teachers and Teacher Educators. Lilongwe.

MoEST (2014), Initial Primary Teacher Education Programme Handbook. Lilongwe.

Mtemang'ombe, F. (2017), An Analysis of Processes and Contexts for ICT Interventions in Malawian Primary School Education System (Unpublished Ph. D. Dissertation), University of Strathclyde.

Murray, J. (2010), Towards a New Language of Scholarship in Teacher Educators' Professional Learning?, *Professional Development in Education, 36*(1-2), 197-209. https://doi.org/10.1080/19415250903457125.

Murray, J. (2017), Defining Teacher Educators: International Perspectives and Contexts. In *The Sage Handbook of Research on Teacher Education*, edited by Jean Clandinin and Jukka Husu, 1017-32. Sage Publications.

Mwanza, A. L D., et al. (2016), Assuring the Quality of Mentoring in Malawi's 1 + 1 Model of Initial Primary Teacher Education Programme : Implications for Teacher Development, *Journal of Communication, 7*(1), 53-64.

Nelson, M.J., et al. (2018), Mediating Factors That Influence the Technology Integration Practices of Teacher Educators, *Computers & Education*. https://doi.org/10.1016/J.COMPEDU.2018.09.023.

Ping, C., et al. (2018), Teacher Educators' Professional Learning: A Literature Review, *Teaching and Teacher Education.* https://

doi.org/10.1016/j.tate.2018.06.003.

Rizza, C. (2011), ICT and Initial Teacher Education: National Policies. *OECD Education Working Papers.* https://doi.org/http://dx.doi.org/10.1787/5kg57kjj5hs8-en.

Sahlberg, P., et al. (2017), *Hard Questions on Global Educational Change: Policies, Practices, and the Future of Education*. New York, NY: Teachers College Press.

Smith, K. (2005), Teacher Educators' Expertise: What Do Novice Teachers and Teacher Educators Say? *Teaching and Teacher Education, 21*(2), 177-92. https://doi.org/10.1016/j.tate.2004.12.008.

Stuart, J., et al. (2000), Careers and Perspectives of Tutors in Teacher Training Colleges: Case Studies of Lesotho and Malawi, https://www.sussex.ac.uk/webteam/gateway/file.php?name=muster-discussion-paper16&site=26.

Swennen, A., et al. (2008), Preach What You Teach! Teacher Educators and Congruent Teaching, *Teachers and Teaching, 14*(5-6), 531-42. https://doi.org/10.1080/13540600802571387.

Teclehaimanot, B. and Lamb, A. (2005), Technology-Rich Faculty Development for Teacher Educators: The Evolution of a Program. *Contemporary Issues in Technology and Teacher Education.* Vol. 5. Kinslow.

Teaching Service Commission (2018), Vacancy *for TTC Lecturers*, Lilongwe: Malawi Government.

Uerz, D., et al. (2018), Teacher Educators' Competences in Fostering Student Teachers' Proficiency in Teaching and Learning with Technology: An Overview of Relevant Research Literature, *Teaching and Teacher Education.* https://doi.org/10.1016/j.tate.2017.11.005.

UNESCO. (2002), Information and communication technologies in teacher education: A planning guide. P. Resta (Ed.), UNESCO, Available at http://unesdoc.unesco.org/images/0012/001295/129533e.pdf

Valcke, M., et al. (2017), Uncovering a Hidden Professional Agenda for Teacher Educators: A Mixed Method Study on Flemish Teacher Educators and Their Professional Development, *European Journal of Teacher Education, 41*(1), 86-104. https://doi.org/10.1080/02619768.2017.1393514.

White, S. (2019), Teacher Educators for New Times? Redefining an Important Occupational Group, *Journal of Education for Teaching, 45*(2), 200-213. https://doi.org/10.1080/02607476.2018.1548174.