

学位論文の要旨（論文の内容の要旨）

Summary of the Dissertation (Summary of Dissertation Contents)

論 文 題 目

Dissertation title

Technology Professional Development for Teacher Educators in Malawi

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The use of *instructional technology*¹ in Malawi is behind expectations partly because teachers and student teachers have often reported to be underprepared. Although teacher educators are critical to the preparation of teachers and student teachers for the use of instructional technology, available research consistently shows that lack of training is one of the major factors that hinder teacher educators' use of instructional technology in the country. However, little is known about the nature of technology trainings that teacher educators undertake. This study explored technology professional development for teacher educators in Malawi to generate insights into ways of building their technology competencies. The study questions were:

- How do teacher educators conceptualize instructional technology, and why do they conceptualize it the way they do?
- How, what, and why do teacher educators learn about instructional technology?
- How do teacher educators apply their learning from technology professional development they undertake?

Study participants included 31 student teachers and 17 teacher educators from three different public teacher education institutions, and 2 staff of a Non-Governmental Organization (NGO) implementing a digital educational technology programme. The NGO staff (called education specialists) train primary school teachers (in schools) and teacher trainers (in teacher training colleges) in the use of digital educational technology. The NGO case served as a snapshot to explore technology professional development for *non-traditional teacher educators*, referring to those that are rarely identified as teacher educators in research or policy. The NGO has also helped to draw lessons that might be useful for teacher educators' technology professional development in public teacher education institutions.

The data collection methods were semi-structured interviews and document analysis. Data analysis combined deductive and inductive approaches, using the *individual perspective of teacher educators' professional*

¹ There is no universally agreed definition of instructional technology. However, two perspectives are noted in the literature: 1) instructional technology as media, which refers to developing, selecting, or using instructional materials such as television, motion pictures, audio-tapes and discs, textbooks, black boards, and so on, and (2) "as a process by means of which we apply the research findings of behavioral sciences to the problems of instruction" (Engler, 1970, p. 379). In this study, the second definition is adopted, paraphrased as the systematic process to solve instructional problems. This definition is preferred because it is broad enough to include the understanding of instructional technology as media. In the dissertation, instructional technology is also used interchangeably with technology.

development at work (Ping et al., 2018) as the analytical framework. The process involved transcription of recorded interviews, data reduction, categorising data, and interpretation through theoretical reading.

The findings indicate that:

- Teacher educators held a 'spectrum' of definitions of instructional technology, from using technology for improving teaching and learning to the use of specific technologies such as computers (see also Chitiyo, 2010). However, the digital media view of instructional technology was the most prominent. This conceptualization can be attributed to their prior training, content of technology professional development they undertake, experience in teaching instructional technology, and the organization structures that facilitate instructional technology at their institutions.
- Teacher educators undertake a mix of formal (such as workshops and upgrading programmes) and informal (such as getting input from colleagues and engaging in academic activities) technology professional development activities as a personal ambition and to respond to changes in teacher education curriculum. The activities focused on technology competencies that seem not unique for teacher educators: for example, being models of using technology for their student teachers, or preparing student teachers how they could enhance technology competencies of their future students (see also, Uerz et al., 2018). Student teachers' perspectives helped to understand how teacher educators were acting as models of using technology.
- Teacher educators confirmed their application of learning through student teachers' performance. However, they reported challenges such as large classes, lack of interest from colleagues, and lack of technology resources as obstacles to apply their learning.
- Mentoring and community of practice are some of the lessons learnt from the NGO case. Additionally, education specialists were expected to have attributes of instructional technologists: for example, applying knowledge of theories of learning to the use of technology in teaching and learning. In this way, the NGO case offers insights for designing job profiles of technology teacher educators of instructional technology in public teacher education institutions.

The findings suggest that the aim of the study has been addressed, which was to improve our understanding of technology professional development for teacher educators in Malawi. The findings support the thesis that, while teacher educators showed interest in improving their technology competencies by undertaking a mix of professional learning activities, it seems their technology professional development content was not unique to the profession of teacher educators. This was further compounded by challenges they faced as they attempted to apply what they learnt from their technology professional development activities. Since the findings point towards individual motivation, needs and obstacles concerning technology professional development, the study is insightful for identifying effective technology professional development activities for teacher educators in Malawi. However, since findings of qualitative research cannot be generalized to larger populations, and that this study was exploratory in nature, the major significance of the study lies in its potential to raise new research questions. Accordingly, the following are some of the areas recommended for further research. First, although the study revealed the use of community of practice and mentoring as some lessons from the NGO case, it is not clear how the activities work (or fail to work), and how teacher educators benefit from them. Second, conducting research or using research findings is one of the effective professional development activities for teacher educators. In this study, while some teacher educators reported to conduct research, it is unclear how they consider research as their professional development activity. Therefore, further research can focus on how teacher educators pursue research as a technology professional development activity.

This study contributes to theory by illustrating technology professional development for *non-traditional teacher educators*, which is valuable knowledge as teacher education around the world continues to be offered beyond the confines of universities and colleges of education. Although the findings may not be transferrable to all non-traditional teacher educators, the snapshot can stimulate further discussions on technology professional development for non-traditional teacher educators. The study also included student teachers' perspectives as basis for understanding teacher educators' technology professional development, a topic that is underexplored in the literature.