# Critical analysis of models of teacher educators' preparation in Singapore and Tanzania

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#### **Abstract**

Despite the fact that teacher education determines the quality of teachers in a given country, various countries adopt various models of teacher educators' preparation. Since such models vary in their effectiveness, it has led to some countries being far ahead of others in terms of the quality of their teacher education. Consequently, there has been a growing interest among researchers in comparing teacher education models of different countries as a way of revealing lessons that countries can learn from one another in relation to the models they adopt. Therefore, the present study aimed at comparing critically teacher education models adopted in Tanzania and Singapore to highlight lessons that Tanzania can learn from Singapore. The study was guided by the following questions: a) what are the models for teacher educators' education in Singapore and Tanzania; b) how effective are the models used for teacher educators' education in Singapore and Tanzania? The study revealed various models adopted in both Tanzania and Singapore. It has also examined the effectiveness of the revealed models. The study calls for Tanzania education system to link policies and practices with research findings and to centralized teacher education to improve its quality.

**Keywords:** Education: Models of teacher preparation, Singapore, Tanzania, teacher education, teacher educators

## Introduction

The goal to transform any education system is likely to be achieved only if teachers are prepared to engineer changes. Based on this, teacher educators become a significant aspect in the process of changes because they are the ones who prepare teachers (Mpisi et al., 2020; Murray & Male, 2005). Teacher educators influence teachers in various ways such as teaching style, belief and values towards the curriculum (Darling-Hammond, 2017; Goodwin & Kosnik, 2013; Zeichner, 2005). Research shows that teachers are influenced by their tutors in choosing what content to teach (Loughran, 2014; Mpisi et al., 2020). To reinforce this, Chan (2002, p.3) underscores "How tutors teach is critical to learning, and how they create and foster learning environments that promote creative thinking and problem-solving skills in

students is of vital importance." Given the increasing unpredictability of our environment that requires constant changes in teaching and learning, analyzing models of teacher educators' preparation is central to understanding how better teachers are likely to be readily prepared to react to new education demands.

The effectiveness of teacher educators is determined by the extent to which they are well prepared during pre-service, in-service and professional development education. According to Organization or Economic Co-operate and Development-OECD (2009) preservice alone is not enough for preparing effective teacher educators because of the limited time and the uncertainty of environment demands. For instance, the dominance of computer technology in the 21st Century entails the need for teacher educators to be trained to enable them to prepare teachers who could use computer technologies in teaching and learning. However, research shows that there is no uniformity in the models used by various education systems to prepare teacher educators. As a result, the quality of teacher educators' preparations varies from country to country based on the adopted models (Darling-Hammond, 2017; OECD, 2009; Zeichner, 2005). This makes comparative studies in the field be more desirable as it helps some nations learn from each other (Darling-Hammond, 2017). Therefore, the present study aims at critically analyzing models of teacher educators' models used in Singapore and Tanzania. Specifically, the study aims to answer the following question: a) what are the models for teacher educators' education in Singapore and Tanzania; b) how effective are the models used for teacher educators' education in Singapore and Tanzania?

The rest part of this article is organized in the following ways: section 2 presents rationale for comparing Singapore and Tanzanian teacher educators' preparation; Section 3 presents an overview of models of teacher education; and section 4 outlines the principles for effective teacher educator's preparation model and, in section 5, the models of teacher educators' preparation in Singapore and Tanzania is critically analyzed and the critical Analysis

## Rationale for comparing Singapore and Tanzania teacher educators' preparations

Tanzania and Singapore have relatively similar historical backgrounds since both were once under colonial domination. While Tanzania got her independence in 1961 from Britain (Komba & Nkumbi, 2008), Singapore got her independence in 1965 from Malaysia. However, Singaporean education system ranks among the best in the world where even some big European Nations go to learn from (Darling-Hammond, 2017). In contrast, the Tanzanian education system is far behind in the world (Hardman et al., 2012; Namamba & Rao, 2017; Vavrus, 2009. Based on this, it is assumed by the researcher that comparing the two countries will give a good lesson to Tanzanian education system on

#### Literature review

## An overview of teacher education models

Model of teacher education is a way in which a certain teacher education system, at a certain level-pre-service, in-service and continuous professional development operates. Models used in different countries differ from each other in terms of time covered, covered content, entrance qualification, funding support, places of learning and deployment/promotion (Darling-Hammond, 2017; OECD, 2009). However, examination of different models have to be linked to their contexts (Guskey & Sparks, 1991; Murray & Male, 2005; OECD, 2009). Therefore, this attracts research interest in analyzing models adopted in various countries.

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## Models used in initial education or pre-service education

Pre-service teacher education is an education that teacher students pursue prior to entering into the teaching profession. Concurrent and consecutive models are the major common models adopted in both developed and developing countries (Zuzovsky & Donitsa-Schmidt, 2017). In the concurrent model, prospective teachers are exposed to both content and pedagogical knowledge during the course of learning about teaching (Zuzovsky & Donitsa-Schmidt, 2017). For instance, during one semester a student teacher can enroll into the four courses of subject content and one course on pedagogical knowledge. It may also be implicated in the way teacher students are engaged in theoretical and practical learning of teaching.

Apart from that, a consecutive model is the one in which learners are exposed to particular contents about teaching one at time followed by another (Zuzovsky & Donitsa-Schmidt, 2017). For example, students can be taken through theories of teaching or understanding of a subject for a period of time and after that they are taken to aspects of understanding of pedagogy or practicum.

## Models used in in-service training

The phase of in-service training is defined variously in various contexts. In-service training is meant for people who are already working as teachers (Amadi, 2013; Kennedy, 2005; OECD, 2009). Nevertheless, there are times it serves the same purpose as pre-service education for those who entered the career without any teaching qualification (Bolam, 1982) cited in (Villegas-Reimers, 2003). Consequently, Greenland (1983) categorized it into four types based on its purposes namely: for certification, for upgrading, for assuming new roles and for coping with curriculum changes. The ones for certification are those that teacher educators receive for the purpose of being recognized as skilled in a certain area of professionalism. Upgrading involves training teacher educators for the purpose of giving them higher level of education rather than what they had when they started teaching. In-service training for assuming new role is the one that is offered to teacher educators when they are recategorized. Training for coping with new curriculum changes involves enabling teacher educators to understand and facilitate student teachers achieve learning goals as stated in the new curriculum.

The main models for in-service training include induction, mentorship and use of specific centers such as colleges and universities. Induction model involves programs that orient novice teachers to a new environment of teaching profession. Mentorship is when the novice teacher works under collaborative supervision of a more experienced teacher(s) for a particular period since joining the profession in order to ease his or her adoption to a new career (Zeichner, 2005). In some institutions it is conducted in a sense that there is official bonding between mentors and mentee, but in other institutions, it is informally conducted (Kennedy, 2005).

# Models for continuing professional development

Continuing professional development includes all formal and informal activities that teachers engage in from the time of pre-service training to retirement that help them gain new knowledge and skills for coping with teaching demands (Kennedy, 2005). Models used in this stage as outlined by Kennedy (2005) and OECD (2009) include workshops, collaborative or individual research, academic conferences and seminars, and personal and dialogic reflection and award-bearing models. In workshops, teachers guided by the experts in the respective field to gain skills and knowledge related to the subject matter. Some are organized by the schools or by partner organizations. Teachers by themselves may engage in researching

certain phenomena in the field of interest. By engaging in such collaborative research, they grow knowledge and skills wise. For instance, in such research some members may benefit from research by learning from fellow teachers on how to conduct research, or and they can benefit from findings from such research projects. On the other hand, by attending conferences, teachers are exposed to a platform for sharing experiences and skills by fellow teachers from different disciplines and parts of the world. Dialogic or individual reflection is when the teacher evaluates his/her practices with the help of fellow teachers or individually. This helps teachers identify emerging needs in their profession. Finally, the award-bearing model involves awarding certificates upon teachers' completion of a certain course such as a masters' degree, and PhD.

## Quality of teacher educators' preparation models

Teacher education programme quality implies the inclusion of important well cohered components and rigorous teaching and learning process that helps the student-teacher to meet the present and future teaching-learning demands (Dilshad & Iqbal, 2010; Hammerness & Klette, 2015; Yackulic, & Noonan, 2001). For instance, Hammernes and Klete (2015) suggest vision, coherence and opportunity to practice to be the core characteristic of teacher education. Hammernes and Klete (2015) went further to clarify: vision means orienting student-teacher with the vision of education; coherence is the state of interlinking courses in a teacher education program; and opportunity to practice is all about giving a chance to student-teachers to practice their knowledge and skills. Furthermore, having reviewed a number of literatures on the quality of teacher educators' preparation, Dilshad and Iqbal (2010) noted that effective teacher education programmes must have well set defined standard to meet the future teaching demands.

Therefore, assessing what is taught and how is taught in terms of teaching strategies and the time dedicated to teaching could provide insights on the quality of teacher educators' preparation model.

## Principles for effective teacher educators' preparation models

Research shows that for any model of teacher educators' preparation must align to various principles related to content, coordination, delivery process, and frequency of delivery (Darling-Hammond, 2017; Goodwin & Kosnik, 2013; OECD, 2009) as clarified below.

The principle that is related to the content offered to teacher educators during training, requires it to be of enough depth and breadth in the sense that it gives the teacher educators multidisciplinary and critical understanding of teaching about teaching (Barrows et al., 2003; Goodwin & Kosnik, 2013). To sum up the principle related to content, Goodwin and Kosnick (2013, p.338) outline the five knowledge domains that need to be part of teacher educators' preparation as:

- 1. Personal knowledge/autobiography and philosophy of teaching;
- 2. Contextual knowledge/understanding learners, schools and society;
- 3. Pedagogical knowledge/content, theories teaching methods and curriculum development;
- 4. Sociological knowledge/diversity, cultural relevance and social justice; and
- Social knowledge/cooperative democratic group process and conflict resolution

The knowledge domains suggested to be part of the content of teacher educators' professional program have been found to be the most challenging in teaching careers (Barrows et al., 2003).

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Therefore, creating awareness among teacher educators on how such domains relate to each other and how to deal with them in the classroom, it will lead to effective teaching.

On the other hand, the principle related to coordination, requires a present of systematic coordination within the model used at a particular level of teacher educators' development and outside it (Choo & Darling-Hammond, 2011; Darling-Hammond, 2017). The systematic coordination within a particular level of professional development involves running the course that is based on the local contextual needs after having conducted a need analysis (Kennedy, 2005). This makes the objective of professional development match with what is delivered to teachers. In addition, systematic coordination beyond a certain level of professional development involves the link between the pre-service and in-service level of professional development. Such coordination allows the models used in these levels to complement each other to ensure effective teacher development (Choo & Darling-Hammond, 2011; Darling-Hammond, 2017). For example, if one does not know, what the pre-service model is based on, s/he is likely to employ the model that does not build on what the student teacher learns in pre-service training. As a result, such training will not add any value to teacher educators' professional development.

Moreover, the principle related to the delivery process requires the training model to be students centered in the sense that it engages teacher educators into critical inquiry rather than consuming knowledge (Kennedy, 2005; OECD, 2009). It is believed that by letting teacher educators engage in active learning during professional development courses, it allows them to relate what they learn more closely to their classroom context, and it raises their confidence level (Kennedy, 2005). Therefore, based on this, any effective model for professional development must give learning ownership to learners rather than facilitators.

On top of that, the principle related to delivery frequency requires professional training courses to be offered frequently so that to cope with rapid changes of the teaching environment (OECD, 2009). Based on this, there is a need for a flexible system that allows teacher educators to attend professional courses frequently without any objection from the management. However, these principles should be interconnected to make any chosen model to be effective. This is reflected in Guskey and Sparks (1991)'s framework of staff development program in which content, quality and organization support are linked together in the way that they influence each other. Therefore, my analysis of teacher educators' preparation models used in Tanzania and Singapore will be benchmarked on the principles discussed under this section as interrelated components for the effective model of teacher educators' professional development program.

## Methodology

Data for the present study were sourced from secondary sources by reviewing various literature mainly published books and articles. The database used include Google Scholar and Ebscohost. These databases were selected based on their accessibility and availability of research works from different journals. In addition, search terms such as "teacher educator" "teacher education model" and "professional development" were used because of their relevance to the research topic. Only articles about models of teacher educators' preparation in Singapore and Tanzania that were published between 2011-2021 were included. Search techniques such as combining terms using "AND" and "OR" were used. Information from the accessed literature were analyzed and categorized into the main themes related to teacher educators' preparation models in Singapore and Tanzania.

## Findings and discussion

This section presents education models used in teacher educators' preparation in both Singapore and Tanzania. It also highlights reasons for the choice of models used and the impact that the used models have to teacher educators in the respective country.

**Table 1:** Models used in Singapore and Tanzania for Teacher Educators' Preparation

| Country   | Singapore                                       | Tanzania  |
|---|---|---|
| Pre-Service<br>Models                               | Consecutive model                               | Concurrent model                                    |
| In-Service<br>Models                                | Official mentorship                             | Informal mentorship                                 |
| Continuing<br>Professional<br>Development<br>Models | Short courses, Award-bearing, Research activity | Award-bearing and workshop and research conferences |

## Pre-service training

Since Tanzania uses a concurrent model in pre-service teacher training as shown in Table 1, student teachers engage in learning content subjects, pedagogy subjects, professional subjects and field practice simultaneously within three years of their undergraduate program. In contrast, in Singapore, teacher students go through various three stages during pre-service training (Chew, 2016; Lim, 2014). The first phase involves screening prospective teacher students' communication skills and attitude towards learning. The second phase involves classroom engagement with learning of teaching subject contents (Chew, 2016; Lim, 2014). The difference in models adopted could be based on various priorities of the two countries. The choice for a concurrent model in Tanzania seems to be influenced by the need to cater to teacher shortage. This is because the concurrent model leads to the graduation of many teacher students within a short period as many courses are covered at once in a short period. This is also reflected in Tanzania's decision to reduce pre-service training time from four years to three that was aimed at getting many teachers in a short time (Namamba & Rao, 2017). However, In Singapore, a consecutive model is influenced by the need to develop quality teachers who are trained based on research and philosophy that inform teacher education. Research shows that Singapore has given education the highest value and has made the teacher education to be one of the most respected professions (Chew, 2016; Choo & Darling-Hammond, 2017; Lim, 2014). Therefore, one may argue that Tanzania has chosen a concurrent model in order to ensure the quantity of teachers while Singapore has chosen a consecutive model in order to get quality teachers.

Based on the principles of effective models of teacher educators' preparation, it is clear that student teachers in Tanzania go to the field while less informed about the teaching profession. This is due to the short period given to covering all the content needed for effective teacher education. Chambulila (2013) argued that three years of teacher pre-service is not sufficient for student teachers to acquire all the skills, knowledge and competencies needed for quality teacher preparations. It is also reflected in Kafyulilo (2013) who posited that in Tanzania, many teachers quit teaching after finding that the teaching career is different from their prior expectations. This implies that if pre-service training had exposed teacher students to a clear path into teaching career, they would have been surviving in the teaching profession for long. Vice versa is true in Singapore where pre-service preparation involves personal

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attitudes of students towards teaching career. As a result, students enter the teaching career while well informed about the teaching career. Therefore, it can be argued that the model used in Tanzania impacts student teachers in a negative way because the content given is less than what is required to make them handle challenges that emerge in teaching career, but in Singapore the model enables teacher students to cover sufficient content knowledge that help them overcome teaching challenges.

#### In-service training

In Tanzania, when teacher educators enter teaching careers they are given informal mentorship in the sense that it happens accidentally when one finds someone to guide him or her in early times of teaching career. In contrast, in Singapore, junior college teachers (teacher educators) are taken through an induction program in which they are attached to the mentor for a long period of time before they are released to work independently (Chew, 2016; Lim, 2014). Lack of formal mentorship might have been caused by the assumption that teaching is simple. This claim is supported by Barrows et al. (2003) who argue that in a context where teaching is assumed less complex, teachers are less given full support as they enter the teaching profession. On the other hand, upholding formal mentorship in Singapore can be influenced by the research perspective on teaching careers that teaching is complex in the sense that teachers need to be supported as they transform themselves into the field. According to OECD (2009), pre-service training alone cannot make the teacher ready to teach effectively. This shows the extent to which research supports the presence of mentorship in college and universities for novice teacher educators to cope with teaching demands in contexts. Therefore, one may argue that different choices for models used in in-service training of teacher educators in Tanzania and Singapore are influenced by the country's different ideologies about teaching.

Based on the principles of effective model for teacher educators' preparation lack of formal mentorship ignores the essence of contextual knowledge. In actual sense, the classroom learning of teacher educators during pre-service is for general teaching context. This makes it insufficient to inform teacher educators with skills and knowledge to deal with specific college or university context. As a result, mentorship becomes paramount as Zeichner (2005) argued that mentorship should be one of the core courses to be offered to teacher educators during their entrance in the university/college teaching profession. Therefore, the model used in Tanzanian in-service training hinder teacher educators from being effective in their specific teaching context, while that of Singapore enables teacher educators to accommodate contextual needs of their immediate schools/colleges.

#### Continuing professional development models

The dominant model for continuing development in Tanzania among teacher educators is the award-bearing model in which teacher educators enroll in PhD and master's programs (Namamba & Rao, 2017). Namamba and Rao (2017) reported that research activity and workshops are rarely employed. They went further noting that workshops are facilitated more to science teacher educators than other subject educators. Contrary to Tanzania, in Singapore award bearing, research engagement, reflective practice, conferences, and seminars are frequently and supported by the ministry of education, and run by the National Institute of Education (NIE). The dominance of Award-bearing models in Tanzania could be influenced by the mode of promotion in university and college where masters and PhD are criteria for promoting teacher educators. It can therefore be argued that maintenance of the promotion system rather developing teacher educators' quality influenced the adoption of the model. This

could be reflected in the tendency of Tanzania's education system to leave workshops and seminars in the hands of financing partners such as NGOs rather than being in the government hands. When workshops are decided by the education system coordinating organs, they rarely serve the interest of teachers' professional development interest (Guskey & Sparks, 1991; Kennedy, 2005; Loughran, 2014). Therefore, this supports the idea that the system does not value the quality of what teacher educators have to acquire from the training. Singapore on the other hand, seems to be influenced by the assumption that teacher educators need to update their knowledge and skills to cope with emerging challenges in the teaching field. This is reflected in the presence of systematic coordination and various courses that support teacher educators' professional development.

Based on principles of effective models for teacher educators' preparation, lack of systematic coordination and uncertainties of the content involved in courses such as workshops makes teachers educators with less professional development. (Namamba and Rao (2017) reported that teacher educators rarely engage in research publication. This could be caused by lack of skills and confidence in research activities due to ineffective continuing professional development used in the education system. Contrary to Tanzania, in Singapore where all the models used in continuing professional development are coordinated by NIE and supported by the government enables students to engage in research activities (Chew, 2016; Choo & Darling-Hammond, 2017). Teacher educators' engagement in research activities has influenced the development in the education system of Singapore. As a result, many nations use them as resourceful people for transforming education. Therefore, models used in continuing professional development determines the extent to which teacher educators develop competences to handle activities related to their profession.

The analysis of the teacher educators' preparation models from Singapore and Tanzania indicate that models used in Singapore adhere to the principles of effective teacher educators' preparation. This shows the need for Tanzania to adopt best policies and practices from Singapore or readjust the existing policies and practices to improve teacher education. Nevertheless, the present study is limited in the sense that it relies on the report from published articles about the adopted models of teacher educators' preparation in both countries. It therefore, suggest that further study should be conducted to explore the rationales of the existing models in Tanzania and the possible policy framework for improving teacher educators' preparations.

#### **Conclusion and recommendation**

The present study analytically compared and contrasted various models used for pre-service, in-service, and continuing development of teacher educators in Tanzania and Singapore. The analysis shows that Singapore adopts effective models in all levels of professional development of teacher educators. Even at times where they both adopt the same model, it has found that Singaporean education system coordinates its programs more than the Tanzanian education system. It seems that teacher educators' models in Singapore are chosen based on research findings on education, whereas in Tanzania it is based on assumptions that teaching is simple. It is recommended that for Tanzania to transform its education to international standards there must be a link between decisions made on teacher education and education research findings. There is also the need to centralize teacher education under one institution to maintain standards for quality teacher education.

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