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## Transforming Rural Teaching: Teacher Educators and Pre-service Teachers' Perspectives on Transformative Curriculum and Pedagogy

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### Abstract

This qualitative study examines preparation of pre-service teachers for altering rural teaching through transformative curriculum and pedagogy. The study gathered the perspectives of 45 participants belonging to two universities in Tanzania, namely University of Dar es Salaam (Dar es Salaam University College of Education) and Sokoine University of Agriculture School of Education. The findings indicate that geographically isolated rural schools are associated with deficits resulting in poor quality of teaching and learning. Further, the findings establish that teacher educators and pre-service teachers are not open to transforming rural teaching. This has implications for the effectiveness of university teacher education provided. To develop pre-service teachers' openness to transforming rural teaching, there is a need for transformative curriculum and pedagogy in teacher education. A transformative curriculum should include diverse knowledge of teaching contexts and be implemented through critical dialogue and reflective pedagogy.

**Keywords:** *pre-service teachers, transforming, rural teaching, curriculum, pedagogy.*

### Introduction and Background

The United Nations Educational, Scientific and Cultural Organization Summit report (2023) asserts that education transformation begins with teachers. Therefore, teacher education should support and empower pre-service teachers to “*transform themselves as future teachers, become agents of change and guides for understanding complex realities of teaching in diverse contexts*” (United Nations Educational, Scientific and Cultural Organization, 2023, p.14). Transformative teacher education should provide pre-service teachers with knowledge, values, skills, and attitudes to be resilient, adaptable, and prepared for an uncertain future and sustainable development. Moreover, pre-service teachers should develop an understanding of the realities of teaching in diverse contexts and how education is affected by inequalities globally and within countries. Global and within-country inequalities have affected students' learning, including those in rural schools. Within countries, there is an inequality between urban and rural schools in terms of the quality of education provided (Arsen et al., 2022; Center for Public Education, 2023; Brenner et al., 2022; Hartman et al., 2022; Lian et al., 2023; Sari et al., 2023). Since most of the population, especially in Sub-Saharan Africa, is in rural areas (World Bank, 2022a), it is important to examine the transformation of pre-service teachers in teacher education in order to equip them with knowledge and skills for transforming teaching in rural schools (Robinson-Pant, 2023).

## **Teaching in Rural Schools**

Most rural schools are characterised by geographical isolation, insufficient social services (Aikaeli et al., 2021; Echazarra & Radinger, 2019; Huguette, 2021), and/or a lack of teachers and teachers with limited qualifications due to inadequate professional development programs (Arinaitwe & Corbett, 2022; Center for Public Education, 2023; Dlamini et al., 2022; Raleigh & Coleman, 2020; Wineman et al., 2020). Rural schools have inadequate teaching and learning resources (Raleigh & Coleman, 2020; Hartman et al., 2022; Lian et al., 2023; Lindsjö, 2018), and are characterised by poverty and lower education levels of parents (Cheung, 2021; Thompson, 2021).

Geographical isolation, limited resources and poverty prevent rural teachers from providing learners the same teaching and learning opportunities as in urban schools. The shortage of teachers and poorly qualified teachers in rural schools lower the quality of teaching in terms of teaching instructions and professionalism which are crucial for students' learning (Cheung, 2021; Organisation for Economic Co-operation and Development, 2020). Rural teaching is restricted by access to technology and digital divides as rural teachers are not able to integrate digital technology into teaching and learning (Tsoka et al., 2023). The teaching skills of rural teachers result in rote learning (Center for Public Education, 2023; Li et al., 2020), which inhibits higher-level learning skills among learners. Subsequently, rural learners are in danger of failing and dropping out due to less meaningful learning experiences (Tsoka et al., 2023). Studies by Cheung (2021) and the Center for Public Education (2023) show that educational inequality between rural and urban schools adds to the academic achievement gap among rural students and minimizes their opportunities to engage in higher education, causing a cycle of poverty in rural areas.

Despite the challenges faced by rural teachers in providing quality education, they are tied to better performance and accountability (Cuervo, 2012;2016). While there is a demand for better performance and accountability, rural teachers have limited time to reflect on their work and face the pressures of a high workload. (Cuervo, 2016; León et al., 2024). Rural teachers lack recognition and autonomy and rarely participate in decision-making, influencing their work (Cuervo, 2016; Vural & Konakli, 2022). Rural teachers feel that they are marginalised and not valued. There is a need for social justice where education systems should recognise different social contexts, distribute resources equitably between rural and urban schools and promote teachers' autonomy and participation in decision-making (Cuervo, 2012; Gaete et al., 2023; Gewirtz, 2006).

## **The Role of Teacher Education in Transforming Pre-service Teachers**

Teachers have a primary and central responsibility to contribute to the quality provision of education in rural schools (Riddle et al., 2023; Robinson-Pant, 2023; Tran et al., 2020; United Nations Educational, Scientific and Cultural Organization, 2023; Wang et al., 2023). Teacher education has a role in supporting pre-service teachers to transform themselves and become agents of change in rural schools (Moffa & McHenry-Sorber, 2018; Quan et al., 2019). As agents of change, pre-service teachers should develop resilience and be empowered to search for solutions to rural teaching challenges instead of resisting them (Boniface, 2019; Cheng et al., 2023; White, 2015). In this sense, pre-service teachers should be encouraged to be creative and apply critical thinking, problem-solving and social-emotional skills to utilise rural resources (Troop, 2017). For effective utilisation of rural resources, teacher education should create awareness among pre-service teachers about opportunities in rural communities that can be used to improve and change rural teaching (Boniface, 2019; Cheng et al., 2023; Nyoni, 2020; White, 2015). There are many positive attributes found in rural areas such as natural resources, community engagement, lower costs of living, natural environment and social capital (Arinaitwe & Corbett, 2023; Brenner et al., 2022; Lian et al., 2023; OECD, 2020; Tran et al., 2020; Wineman et al., 2020). Therefore, raising awareness of the available opportunities in rural communities empowers pre-service teachers to use the resources around them to transform the quality of teaching in rural schools.

However, the success of transformational creativity, enquiry and curiosity depends on awareness of contexts, a clear understanding of the different dimensions of what needs to be transformed, and the commitment to transformation (Alshumaimeri, 2022; Brenner et al., 2022). Additionally, transformational curiosity depends on curricula that appreciate the epistemology and diverse vision, reflections of students' values and commitment from management (Filho et al., 2018). Therefore, teacher education programs need to implement changes in teacher training by giving attention to critical elements of curriculum and pedagogy (Pickering, 2019).

### ***The Transformative Teacher Education Curriculum***

Transformative teacher education curriculum reflects pre-service teachers' lived diverse experiences, including the difficulties and challenges contributing to their preparation for teaching (Riddle et al., 2023; Robinson-Pant, 2023). At its heart, a transformative curriculum should be holistic and accommodate pre-service teachers' experiences of place and purpose (Resch, 2020; Riddle et al., 2023; United Nations Educational, Scientific and Cultural Organization, 2023; Troop, 2017). Transformative curriculum needs to be epistemic (Annala, 2022), neutral (Lane & Waldron, 2021; Weinberg et al., 2020), and relate to local communities in which pre-service teachers live (Brenner et al., 2022; Robinson-Pant, 2023). The curriculum should cover both formal and informal aspects of pre-service teachers' learning experiences, including social behaviour in real-life teaching practices (Leibowitz, 2017). However, adopting a holistic and epistemic curriculum in teacher education is challenging due to the presence of a standardised national curriculum. The standardised national curriculum has been an obstacle to achieving diverse educational goals due to set standards, conventional pedagogical models and established national professional standards (Annala, 2022; Robinson-Pant, 2023).

Standardised curricula of education systems, including teacher education, do not prepare and support pre-service teachers for transformation (Annala, 2022; Cheung, 2021; Lian et al., 2023; Quan et al., 2019; Tran et al., 2020; United Nations Educational, Scientific and Cultural Organization, 2023). A standardised curriculum makes it difficult for pre-service teachers to view themselves as agents of change who can transform themselves and their classrooms (Nyoni, 2020; Riddle et al., 2023; Weinberg et al., 2020). A rich and holistic curriculum that accommodates pre-service teachers' experiences provides relevance to teaching, prepares them for teaching work, and gives them opportunities for engagement with teaching knowledge connected to critical understandings of society (Moffa & McHenry-Sorber, 2018; Resch, 2020; Riddle et al., 2023). When teacher education adapts the curriculum to meet community needs and strengths, pre-service teachers may have reasons to develop place consciousness, creativity, enthusiasm, patriotism, and professional identity in solving rural teaching challenges (Brenner et al., 2022; Reagan et al., 2019).

### ***Transformative Classroom Pedagogy***

An authentic transformational curriculum requires a classroom pedagogy that leads to transformative learning of pre-service teachers (Riddle et al., 2023; Robinson-Pant, 2023; Walker-Gibbs et al., 2018). A process-oriented classroom pedagogy is preferable to a knowledge-transferring pedagogy (Brenner et al., 2022; Omodan & Addam, 2022; Robinson-Pant, 2016; Yüner, 2020). According to Freire (1998), the former involves critical pedagogy, which makes pre-service teachers conscious of positive change in society through the connection between individual student experiences and society. Omodan and Addam (2022) also explain that critical pedagogy connects pre-service teachers with social constructions of knowledge, dispositions, and actions for transformation through classroom dialogues.

Dialogues reflect pre-service teachers' frame of reference regarding realities, experiences and thinking, enabling them to learn how to teach in varied contexts (Mezirow, 2003; Underhill, 2021). Through critical dialogues, teacher educators and pre-service teachers decode the hidden codes,

negotiate meaning, reality and experiences, and reconstruct reality (Cui & Tea, 2023; Singh, 2021; Underhill, 2021). Pre-service teachers who use critical dialogues and praxis are prepared with critical thinking and interpersonal skills (Cui & Teo, 2023; Song et al., 2022). These skills enable them to participate in and implement a range of educational goals, practices, and processes to meet teaching expectations. Apart from critical dialogues, pre-service teachers may work collaboratively in groups, analysing various problems concerning rural teaching and generating knowledge with solutions (van Tol, 2017). Working in groups develops social relations and collaborative problem-solving skills among them; not only at universities but also in communities they are going to teach after graduation.

In most cases, teaching in teacher education colleges and universities focuses on knowledge transfer rather than process pedagogy (Annala, 2022; Omodan & Addam, 2022; Milenković & Dimitrijević, 2019). When teaching is applied as a transmission of knowledge, it treats knowledge as something fixed and ignores the learner's social history, thinking, and creativity. Transfer of knowledge is considered unproductive and overbearing as it does not equip pre-service teachers with transformative skills such as critical thinking, reflection, creativity, and problem-solving (Milenković, & Dimitrijević, 2019). Transformational classroom pedagogy should orient pre-service teachers with transformative learning focusing on experience, inquiry, creativity, and curiosity (Pickering, 2019; United Nations Educational, Scientific and Cultural Organization, 2023). Teacher educators should value, visualise, and integrate rural places in classroom discourse to empower pre-service teachers to transform their rural teaching frame of reference (Hasnat & Greenwood, 2021; Gouwens & Henderson, 2021).

### **Purpose and Research Questions**

The Tanzania Development Vision 2025 aims at developing active citizenship and professionals who can own development through hard work, professionalism, creativity, and solving society's problems (Ministry of Education, Science and Technology, 2018). However, studies indicate that teaching in rural schools is challenging due to a shortage of teachers, inadequate social services, as well as insufficient teaching and learning resources (Dlamini et al., 2022; Kayuki & Lekule, 2022; Lindsjö, 2018; Utafiti Elimu Tanzania, 2023). Graduate teachers are not ready to be posted to teach in rural schools, and rural novice teachers do not commit themselves to working hard and solving rural teaching problems (Boniface, 2019; Kayuki & Lekule, 2022). Instead of seeking solutions to the challenges surrounding rural schools, novice teachers leave the profession or relocate to urban schools, which leads to teachers' attrition in rural schools (Aikaeli et al., 2021; Huguette, 2021; Wineman et al., 2020). The current study examines how university teacher education prepares pre-service teachers for transforming rural teaching concerning their own and teacher educators' perspectives on transformative curriculum and pedagogy. This study addresses the following research questions:

1. Are teacher educators and pre-service teachers willing to transform rural teaching?
2. What are teacher educators' and pre-service teachers' perspectives on transformative curriculum?
3. Which classroom pedagogies are appropriate for a transformative curriculum?

### **Theoretical Underpinnings**

The study is grounded in transformative learning. Transformative learning is "*the process of effecting change in peoples' frames of reference*" (Mezirow, 1997, p. 5). Hoggan and Finnegan (2023) define transformative learning as a process that affects people's experience, conceptualisation, and interaction with the world. Transformative learning recognises that learners have different assumptions, expectations, and beliefs that help them make sense of their world (Mabwe et al., 2024). Transformative learning grounds this study since it has been recognised to be a crucial means

of ensuring that education can contribute to the transformation and attainment of sustainable development (Hoggan & Finnegan, 2023; United Nations Educational, Scientific and Cultural Organization, 2023). Therefore, ensuring that education contributes to the achievement of sustainable development needs university pre-service teachers' engagement in transformative learning (Janssens et al., 2022).

Drawing from Mezirow's transformative learning theory, transformative learning focuses on changing learners' prior frames of reference to new understandings (Mezirow, 1997; 2000; 2003) and according to Mezirow (1997), changing of frames of references bases on two dimensions of habits of mind which represents abstract and habitual ways of thinking, feeling, and acting. The second dimension is the point of view, which includes beliefs, value judgments, attitudes, and feelings that shape a particular interpretation. Changes in frames of reference happen through learners' critical reflection on their prior assumptions to understand and validate the meaning of new ideas (Mezirow, 2000).

In the context of this study, pre-service teachers' perceptions are expected to be changed through a neutral curriculum and critical reflection of rural teaching by understanding practices that do not work in rural schools. Teacher educators need to pose rural teaching problems that incorporate critical dialogues and discussions around pre-service teachers' experiences through whole classroom discussions or small group discussions. These discussions should assess reasons, examine the evidence, and arrive at a reflective judgment and alternatives for the problems. Through dialogues, knowledge is constructed, deconstructed, and generated to transform learning, related skills, attitudes, and beliefs.

## **Methods**

### ***Setting of the Research***

The study employs a qualitative research approach to enable the researchers to gain deeper insights and understanding of how university teacher education can transform pre-service teachers to be agents of change for rural teaching. The researchers examine the willingness of teacher educators and pre-service teachers to transform rural teaching and their perspectives on transformative curriculum and classroom pedagogies. The study was conducted in two government universities that train teachers: the University of Dar es Salaam and the Sokoine University of Agriculture. At the University of Dar es Salaam, one constituent college, Dar es Salaam University College of Education, was involved, and at the Sokoine University of Agriculture, the School of Education was engaged in the research.

### ***Selection of Participants***

The study includes 45 participants: nine teacher educators and 36 pre-service teachers. All teacher educators were selected according to their experiences of teaching in either rural primary schools or secondary schools before they were employed to teach at the universities. All pre-service teachers were second and third years who had conducted their teaching practice in rural schools in two regions. Both regions are located in the central zone of Tanzania, one of the zones with the highest poverty, according to the World Bank (2022b). They are among the five regions in the country with the least level of economic development (Aikaeli et al., 2021). Literature asserts that most of the rural schools are isolated and characterised by poverty (Cheung, 2021; Li et al., 2020; Thompson, 2021). From the two regions, six geographically isolated schools were identified with assistance from teaching practice coordinators of both regions.

## **Data Collection and Analysis Procedures**

Semi-structured face-to-face interviews and focus group discussions were used to collect data from teacher educators and pre-service teachers. Face-to-face interviews capture emotions and verbal and non-verbal actions for the purpose of deepening understanding of the topic under study (Creswell & Creswell, 2018). The researchers conducted nine interviews (four at Sokoine University of Agriculture and five at Dar es Salaam University College of Education). The pre-service teachers' focus group discussions generated collective rich data built on each other's responses (Merriam & Tisdell, 2016). Six focus group discussions were conducted at Sokoine University of Agriculture and Dar es Salaam University College of Education. The researchers developed an interview guide tool for face-to-face interviews and focus group discussions. The tool examined the participants' willingness to transform rural teaching and their perspectives on transformative curriculum and pedagogy. Interviews and the focus group discussions were recorded, and the collected data were transcribed. The resulting data were imported into the MAXQDA software for analysis.

## **Ethical Considerations**

The research clearances to conduct studies in Dar es Salaam University College of Education and Sokoine University of Agriculture were obtained from the office of the Vice Chancellor at the University of Dar es Salaam. The clearance letters introduced the researchers to the Regional and District Administrative Secretaries and the College Principals of Dar es Salaam University College of Education and Sokoine University of Agriculture. The confidentiality of information was maintained by not disclosing the names of regions, schools and participants. Teacher educators and pre-service teachers were labelled as TE and PST, respectively. All participants signed the informed consent forms to confirm their voluntary participation.

## **Results**

### **Rural Teaching in the Tanzanian Context**

Both teacher educators and pre-service teachers defined rural schools as geographically isolated and far from municipalities. The participants revealed that most rural schools faced various challenges, including inadequately trained and under-qualified teachers, shortages of teaching and learning resources, and overcrowded classrooms. This situation created tension among both rural teachers and students. One of the teacher educators provided the following response: *“Teachers and students in rural schools have tensions and stress; they have lost hope, and the situation leads to inability of rural teachers to provide quality education”* (Dar es Salaam University College of Education - 1TE, 11 June 2022). Similarly, a focus group participant testified:

*In a school where I conducted TP, there was shortage of teachers. Even the few teachers available were not able to fulfil their responsibilities due to inadequate time resulted from heavy workload. Generally, it was difficult for teachers to provide assistance and mentoring to pre-service teachers. As pre-service teachers, we were left to teach for ourselves in classrooms because teachers from whom we took the teaching subjects did not offer any support. (Dar es Salaam University College of Education 4PST – 1FGDs, 20 June 2022)*

Moreover, participants revealed that teaching in rural schools lacked creativity due to a shortage of teachers and under-qualified teachers, limited teaching materials and aids. Teaching was associated with rote learning, where students were given notes to copy without checking whether they understood the meaning of the notes. As a result, students memorised facts and reproduced them during the assessment. One of the teacher educators affirmed:

*Rural students practice rote learning due to poor teaching which does not give them the chance to actively engage in the lesson and construct meaning of what they are learning.*

*Teachers just give lesson notes to class leaders to copy for their fellow students. (Sokoine University of Agriculture - 2TE, 29 June 2022)*

### **Teacher Educators and Pre-service Teachers' Willingness for Transformation**

Most teacher educators and pre-service teachers were uncertain about wanting to transform teaching in rural schools. Both groups explained that it was the government's responsibility to deal with the problems and challenges related to teaching in rural schools. For example, the government must allocate adequate teaching and learning resources, and improve social services in rural schools. One focus group participant affirmed:

*It is the role of the government to improve the teaching and learning process through provision of teaching and learning resources in rural schools. The government should build classrooms, employ the required number of teachers, and provide other teaching and learning resources. (Sokoine University of Agriculture -3PST- 3FGDs, 3 July 2022)*

Similarly, during interviews, one of the teacher educators commented: “We know that given our economic status, the government cannot provide sufficient teaching and learning resources in all schools, but we can invite NGOs and other agents...” (Dar es Salaam University College of Education 2TE, 22 June 2022). Participants were aware of the locally available resources in rural schools. However, the lack of curiosity and creativity skills hindered both pre-service teachers during their teaching practice and rural teachers from using the resources. One of the focus group pre-service teachers made the following comment:

*We find it difficult to utilise local resources found in rural schools during TP because we lack creativity. We are trained on preparing teaching resources, but the training focuses on the use of ready-made resources. The course does not orient us adequately to prepare teaching and learning materials using the available resources in school contexts. (Dar es Salaam University College of Education 5PST - 3FGDs, 15 July 2022).*

### **Teacher Educators and Pre-service Teachers' Perspectives on Transformative Curriculum**

Participants reported that the university teacher education curriculum is standardised and does not integrate diverse teaching contexts, specifically rural teaching, as confirmed by one of the teacher educators.

*In reality, our university curriculum does not integrate diverse teaching, specifically teaching in rural schools. the course outlines are standardised with pedagogies which do not allow flexibility of teaching in various contexts. Even during teaching practice, we are required to assess pre-service teachers on the basis of these curriculum standards and pedagogies. (Sokoine University of Agriculture - 3TE, 15 July 2022)*

Participants' perspectives on a transformative curriculum focused on a neutral curriculum that integrates distinctive features for preparing pre-service teachers for rural teaching. These features should include inclusive and multiple knowledge that integrates pre-service teachers' experiences and beliefs in teacher education programs. Participants added that multiple knowledge curriculum creates flexibility in teaching in rural and urban schools, enabling pre-service teachers to link what is taught in the classroom with diverse real-life teaching environments. Commenting on this aspect, one of the teacher educators said, “Teacher education should be concerned with orienting pre-service teachers to teach in both rural and urban schools and should be concerned with linking both contexts in theory and practice...” (Dar es Salaam University College of Education - 5TE, 10 July 2022). Similarly, in the focus groups, one of the pre-service teachers insisted, “Course outlines should be flexible to accommodate diverse contexts, to make us aware and conscious to teach in diverse contexts. This will enable us familiarise with the differences between rural and urban schools”. (Sokoine University of Agriculture – 5PST- 1FGDs, 28 June 2022)

The participants suggested that a transformative curriculum should include special courses for rural teaching, integrating rural teaching in methods courses and teaching practice. They suggested flexibility of content to teach in diverse contexts, as well as creativity and problem-solving skills, which are essential topics for pre-service teachers to learn. Other topics include local resource improvisation, assessment focusing on diverse teaching, information and communication technology (ICT), and social-emotional learning. Regarding ICT, they suggested that the topic should be integrated with methodology courses. One teacher educator commented:

*Integrating technology and ICT with methodology courses will enable pre-service teachers to be creative. Methodology courses should train pre-service teachers to use their mobile phones to access materials for teaching, and facilities such as DVDs and tape recorders to store the teaching and learning materials. Using the storage devices, pre-service teachers may record lessons that can be used in teaching different groups of students, thus mitigating the problem of shortage of teachers and teaching larger classes. (Dar es Salaam University College of Education - 1TE, 11 June 2022)*

Participants also revealed that social-emotional learning could prepare pre-service teachers to be resilient and emotionally well. Social-emotional learning will develop student-teachers' understanding and acceptance of the differences between teaching in urban and rural schools, develop flexibility and collaborative problem-solving skills. One of the teacher educators declared:

*Teacher education programs should prepare pre-service teachers to cope with teaching in rural schools by integrating social-emotional learning. Social emotional learning will enable them to develop socialisation and positive self-concepts, efficacy, awareness, accept differences, tolerance, flexibility, creativity, and problem-solving skills. (Dar es Salaam University College of Education - 3TE, 25 June 2022)*

### **Perspectives on Transformative Classroom Pedagogies**

Participants explained that interactive teaching methods could enable pre-service teachers to reflect and construct knowledge by assessing their experiences and prior knowledge. Moreover, teaching should be based on cooperative learning. In groups, pre-service teachers should be provided with integrated rural teaching problem-based cases, simulations, and scenarios to analyse them to provide solutions and alternatives. One of the study teacher educators provided the following views:

*Pre-service teachers should be exposed to group assignments linked with rural teaching problem-based cases in the form of video clips, descriptions, and written documents. They should analyse and provide alternatives and solutions for the teaching challenges in rural schools. In so doing, pre-service teachers will develop awareness of rural teaching knowledge, skills and attitudes such as creativity, problem-solving skills, confidence and others. (Dar es Salaam University College of Education - 1TE, 13 June 2022)*

## **Discussion**

This study examined how university teacher education prepares pre-service teachers for transforming rural teaching. The study examined pre-service teachers' and teacher educators' desire to transform rural teaching and their perspectives on transformative curriculum and pedagogy. The findings indicate that rural schools are geographically isolated and are associated with poverty, inadequate and under-qualified teachers teaching in overcrowded classes with limited teaching and learning resources. Participants reported that rural teachers are unable to fulfil their responsibilities, and they use inappropriate teaching instructions, which have implications on the quality of learning among rural students. These findings are in line with those reported by Raleigh and Coleman (2020), Hartman et al. (2022), Lian et al. (2023), Cheung (2021) and the Organisation for Economic Cooperation and Development (2020). The latter suggests that geographical isolation and



resourcing deficits have led to rote learning and low-quality education in most rural schools worldwide. The low quality of education in rural schools has been an obstacle to meaningful learning and the development of higher-level learning skills among rural learners (Center for Public Education, 2023; Li et al., 2020). Subsequently, rural students have limited chance to join higher learning institutions, which has implications on their employment status and their participation in poverty reduction in rural areas (Tsoka et al., 2023; Cheung, 2021; Center for Public Education, 2023).

Quality education in rural schools can be provided through social justice rather than tending rural teachers for better performance and accountability in unfavourable teaching environments (Cuervo, 2012; 2016). Social justice should recognise social context diversity, equal distribution of resources between rural and urban schools, and teachers' autonomy and participation in making decisions (Cuervo, 2012; Gaete et al., 2023; Gewirtz, 2006). Through social justice, in-service and pre-service teachers should understand the realities of teaching in rural schools' contexts (León et al., 2024). Teachers should understand how the quality of teaching in rural schools has affected the learning of rural learners and their future lives (Arsen et al., 2022; Center for Public Education, 2023; Brenner et al., 2022; Hartman et al., 2022; Lian et al., 2023; Sari et al., 2023). Teachers need to recognise that they have a primary responsibility and role in transforming the quality of teaching in rural schools (Riddle et al., 2023; Robinson-Pant, 2023; Tran et al., 2020; United Nations Educational, Scientific and Cultural Organization, 2023; Wang et al., 2023). As agents of change, rural teachers should be prepared and motivated to search for solutions to rural teaching challenges instead of resisting them (Boniface, 2019; Cheng et al., 2023; White, 2015). In line with the recognition of teachers as agents of change, there should be equal distribution of teaching resources, teachers' autonomy and participation in making decisions.

The study findings indicate that teacher educators and pre-service teachers are not willing to transform rural teaching, and they reported that it is the role of the government to improve teaching in rural schools. In addition, the participants revealed that the curriculum used in teacher education is standardised. This contradicts Tanzania Development Vision 2025 and the United Nations Educational, Scientific and Cultural Organization Summit report on developing teachers as agents of change and transformation in education (Ministry of Education, Science and Technology Education, 2018; United Nations Educational, Scientific and Cultural Organization, 2023). Similar observations have been reported on educators' unwillingness to act as active agents for education transformation in rural schools due to, among other reasons, a lack of rural teaching consciousness and standardised curriculum (Nyoni, 2020; Riddle et al., 2023; Weinberg et al., 2020; White, 2015). In this study, the unwillingness of teacher educators and pre-service teachers to transform rural teaching may have resulted from inadequate consciousness of rural teaching and the standardised curriculum used in teacher education. Literature indicates that the successful development of transformation curiosity of rural teaching among teachers depends on teachers' awareness and understanding of rural context. (Alshumaimeri, 2022; Brenner et al., 2022; Reagan et al., 2019). In essence, Li et al. (2020) explain that teachers' understanding of rural schools' contexts, actual needs and internal features and functions prepare them to teach in rural schools. Pre-service teachers should be aware of teaching challenges and the opportunities in rural communities which can be used to change the quality of teaching in rural schools (Arinaitwe & Corbett, 2023; Boniface, 2019; Brenner et al., 2022; Cheng et al., 2023; Nyoni, 2020; White, 2015). Raising awareness of what needs to be changed and the available opportunities in rural communities may empower pre-service teachers to develop transformation curiosity.

Regarding the reported standardised curriculum used in teacher education, similar findings indicate how standardised curriculum creates a dilemma among educators to view themselves as agents of change (Cheung, 2021; Lian et al., 2023; Nyoni, 2020; Riddle et al., 2023; Weinberg et al., 2020; United Nations Educational, Scientific and Cultural Organization, 2023). The standardised curriculum hinders the achievement of diverse contexts' educational goals due to set standards (Annala, 2022; Robinson-Pant, 2023). The standardised curriculum does not prepare and support pre-service

teachers for transformation (Annala, 2022; Cheung, 2021; Lian et al., 2023; Quan et al., 2019; Tran et al., 2020; United Nations Educational, Scientific and Cultural Organization, 2023).

In this study, teacher educators and pre-service teachers' perspectives on transformative curriculum suggested a neutral curriculum that integrates diverse teaching contexts, ICT and social-emotional learning. Similar findings indicate the need for neutral curriculum to prepare pre-service teachers for transformation in education (Annala, 2022; Brenner et al., 2022; Lane & Waldron, 2021; Resch, 2020; Riddle et al., 2023; Robinson-Pant, 2023; United Nations Educational, Scientific and Cultural Organization, 2023; Weinberg et al., 2020). Neutral curriculum in teacher education reflects pre-service teachers' lived diverse experiences, including difficulties and challenges that contribute to their preparation for rural teaching (Riddle et al., 2023; Robinson-Pant, 2023). A curriculum that accommodates pre-service teachers' experiences related to rural communities develops their new frames of reference on a cognitive and social level (Resch, 2020; Riddle et al., 2023; Troop, 2017; Brenner et al., 2022; Robinson-Pant, 2023).

In order to develop transformation curiosity among pre-service teachers, teacher education programmes should accommodate pre-service teachers' community experiences. Accommodating pre-service teachers' community experiences prepares and provides them with relevant teaching practices and behaviours connected to their society (Resch, 2020; Riddle et al., 2023). In developing teaching behaviours connected to society, pre-service teachers should be equipped with social-emotional skills, as suggested by the participants of this study. Social-emotional skills equip pre-service teachers with behaviours in real-life teaching contexts (Leibowitz, 2017). As agents of change, social-emotional behaviours among pre-service teachers, such as resilience, collaboration, flexibility, acceptance of contexts differences, tolerance and commitment, enable them to search for solutions regarding rural teaching challenges (Boniface, 2019; Cheng et al., 2023; Wang et al., 2023; White, 2015).

Participant perspectives on classroom pedagogy focused on pedagogy that develops higher-order skills among pre-service teachers. Participants commented on the importance of higher-order skills such as critical thinking, creativity, problem-solving, and ICT use during teaching and learning. Recent research has reported on the importance of higher-order learning skills in transforming rural teaching (Center for Public Education, 2023; Tsoka et al., 2023; United Nations Educational, Scientific and Cultural Organization, 2023; Wang et al., 2023). Higher-order skills prepare pre-service teachers to be original thinkers, self-directed, and curious and develop the ability to find out and apply knowledge to solve various teaching problems (Song et al., 2022; Wang et al., 2023). Higher-order skills can be developed through questioning, critical dialogues and reflections (Cui & Teo, 2023; Song et al., 2022; Troop, 2017; Underhill, 2021). Freire (1998) explains how critical pedagogy prepares pre-service teachers for societal transformational change through the connection between individual student experiences and society. Critical pedagogy and reflection of societal experiences connect pre-service teachers with social constructions of knowledge, dispositions, and actions for positivism and transformation (Omodan & Addam, 2022).

Participants' perspectives on classroom pedagogy comment on participatory classroom practices. Participants mentioned practices such as critical questioning, group tasks, and providing pre-service teachers with problem-based cases, simulations, and scenarios to analyse and solve the problems. The current findings are similar to those reported by Freire (1998), Mezirow (1997; 2000) and Underhill (2021) on the need for learner-centred practices in transforming learners. Other studies indicate how reflection and critical dialogue develop critical thinking and creativity and enable pre-service teachers to construct new appropriate rural teaching knowledge, skills, and dispositions (Singh, 2021; Song et al., 2022; Underhill, 2021).

## Conclusions and Implications

Based on the findings of this study, the following conclusions are made. Firstly, the quality of teaching in rural schools is related to geographical isolation, inadequate and under-qualified teachers, and a shortage of teaching and learning facilities in both regions. Secondly, teacher education does not prepare pre-service teachers to teach in rural schools due to the standardised curriculum used in teacher education. Thirdly, many teacher educators and pre-service teachers are not open to transform rural teaching. This may have resulted from applying the existing standardised university curriculum. Fourthly, to develop pre-service teachers' desire to change rural teaching, there is a need for transformative learning in university teacher education. The transformative curriculum should consider social justice and should include diverse knowledge of teaching in both rural and urban schools and should be implemented through classroom critical pedagogy and reflection.

The findings of this study have implications on the need for transformation of rural teaching in order to improve the quality of teaching and learning. Since transformation in education starts with teachers (Tran et al., 2020; United Nations Educational, Scientific and Cultural Organization, 2023; Wang et al., 2023), teacher education should prepare teachers for transformation. Teacher education should empower pre-service teachers to become active agents of change by developing awareness and understanding of complex and diverse teaching realities. Teacher education should equip pre-service teachers with transformation curiosity through a transformative curriculum (Riddle et al., 2023; Robinson-Pant, 2023) and pedagogy (Riddle et al., 2023; Robinson-Pant, 2023; Walker-Gibbs et al., 2018). The present study contributes to the existing knowledge by providing insights about how teacher education programmes should develop pre-service teachers' transformation curiosity through transformative curriculum and classroom pedagogy. The insights can be used as guides for equipping pre-service teachers with knowledge, higher order learning skills, social and emotional skills necessary for transformation of rural teaching. Based on the findings of the study, further studies can be conducted on professional development to equip teacher educators with transformation experiences. Experimental and longitudinal studies on the same topic are highly recommended.

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