

The Contribution of Educational Research Course towards Teachers Professional Development

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Abstract

The study explores the contribution of educational research course taught in teacher education programmes towards teachers' professional development. Seventeen student-teachers and two teacher educators from a selected university participated in semi-structured interviews. Data were analysed using thematic analysis. The findings revealed a divided proportion among student-teachers as some reported the course has a crucial contribution to professional development and some said the course had no contribution. The findings further revealed tension between what was expected and the experienced reality of the research course in contributing to teacher professional development. The course content was huge and did not enable teachers to acquire and use research skills for professional development. Teaching and learning time was limited and varying attitudes among student-teachers towards the course was a challenge. The study recommends that teacher training institutions revise the research course to suit its applicability to teachers in the school context. Also, teacher educators should interpret the context and design simple lessons to enable student-teachers in developing the required skills and apply them in the school context.

Keywords: *student-teachers; research; professional development*

Introduction

Effective classroom instructional practices require a practical application of research skills that help teachers adjust a classroom environment to deliver a powerful lesson (Stafford, 2006). Teachers' self-reflection, inquiry, observation and experimenting with new methods to determine their effectiveness constitute to the application of research in the classroom. In their study, Lewis et al. (2006) revealed that research increases the capacity of teachers to learn across boundaries, innovate and learn from innovations and develop a descriptive knowledge base that constitutes their professional development. Teachers' research skills have a powerful influence on transforming curriculum, instruction, and assessment practices by giving teachers relevant information, strategies, and evidence to act (Junor-Clarke & Fournillier, 2012). Therefore, the application of research skills helps teachers to bring in innovations and improved methods of teaching. Inadequate research skills among teachers deprive them an opportunity to learn from their classroom teaching practices.

In realizing the potential of research for teachers, in 2007, the Tanzanian government issued a strategy to improve the quality of student-teachers (ST) through enhancing the research skills in initial teacher education training programs for sustaining professional development after graduation (URT, 2007). The strategy focused on enhancing teachers' self-reflection and inquiry to elevate their teaching competencies hence improving students learning outcomes. Hakielimu (2021) further emphasizes that research has paramount importance in informing teaching and learning practices despite little consideration from education policy.

Applying research in the classroom promotes teachers' continuous learning for improvement. The strategy introduced aimed at enhancing teachers' research skills expected to see the research courses improved in initial teacher education training. It intends to give student-teachers the capability to apply research in their classroom teaching practices. Although initial teacher education training institutions have been teaching research courses, studies afterward found that teachers lacked the required research skills (Hardman et al., 2015). Teachers hardly mastered the reflective and inquiry practices in their teaching, and the situation raised questions about the effectiveness of research courses taught in initial teacher education training programs (Juma et al., 2017).

Purpose of the study

Although initial teacher education training institutions have integrated research courses in their programmes, studies reveal that teachers are not applying the research skills to promote continuous professional development (Hardman et al., 2015; Juma et al., 2017; Munthe & Rogne, 2015). Also, Zhou (2012) asserts that some teachers misunderstand research and hence find it difficult to apply in their classroom context. In this context, where some teachers understand the benefits of research, yet some hardly use it for professional growth, exploring the practitioners' perceptions is paramount. Understanding student-teachers' perception is important as it significantly influences how they learn the course and later use the skills to enhance their teaching practices (Ax et al., 2008).

Objectives of the study

The main objective of the study was to explore the contribution of educational research course taught in teacher education programmes towards teachers' professional development. Specifically, the study intended to answer the following questions. I) How do student-teachers perceive educational research course towards teacher professional development? II) What are student-teachers' awareness of the benefits of educational research course on teacher professional development? III) What are the benefits of educational research course on student-teachers' professional development?

Literature review

Research course has been strengthened in initial teacher training programmes. The strengthening has focused to cultivate research skills for teachers to make self-reflection, and inquiry in their teaching practices that enhances their critical observation of situations for learning and changing. The section presents a theoretical review of kinds of literatures on how the research course should be taught, highlighting its benefits for teacher learning. The second section is the empirical review of works of literature highlighting pieces of evidences from the practical implementation of the course to teachers and the testimonies on how it has elevated their teaching skills and the challenges encountered.

Initial teacher education is the professional training covering a specified time to initiate young and determined scholars who want to become teachers. The implemented training focuses on methodological, content and management skills

and knowledge to enable prospective teachers to perform teaching activities (Mgaiwa, 2018). The initial teacher education covers specific content knowledge and pedagogical skills to enable teachers to deliver the content through designed lessons to facilitate students learning. A pre-service teacher is 'the student enrolled in a teacher preparation program who must complete degree requirements including course work and field experience before being awarded a teaching license' (Ryan et al., 2017).

Teacher continuous professional development has been defined as a teacher's process to transform from beginner level to an expert professional in the field through formal and informal learning activities (Kelly, 2006). It is the total sum of formal and informal learning experiences acquired throughout the teaching career, transforming knowledge to practice to help students' effective learning and growth (Ulvik & Riese, 2016). In this context, continuous professional development intertwines the research skills through teachers' self-reflection and inquiry for improvement.

Research skills enable teachers to identify problems, gather data, analyse and arrange plans to solve them (Junor-Clarke & Fournillier, 2012). Applying research skills allows teachers to closely investigate their practices and find appropriate solutions that permanently address the challenges encountered in daily routine (Ax et al., 2008; Mitchell et al., 2009). In some cases, this process is called action research, where teachers apply research skills in the classroom context to identify some challenges and find solutions to them. Teachers enhance their professional capacity through this process to acquire more experience, skills, and new knowledge. Various scholars have developed stages in conducting research in the classroom, which is the ultimate goal of teaching research courses to student-teachers. Erbilgin (2019) provides five steps for conducting research in a classroom context. These steps are i) determining the problem, ii) planning the methodology, iii) conducting the study by gathering data, iv) evaluating the applicability of the solutions, v) sharing the findings with other colleagues. Dickens and Watkins (1999) also provide similar stages, as shown in Figure 1. The stages are what student-teachers should master to make research useful and relevant to their teaching activities. It is not likely for teachers in school contexts to carry out large scale research studies but rather to apply research skills and knowledge to make their teaching more engaging and impactful.

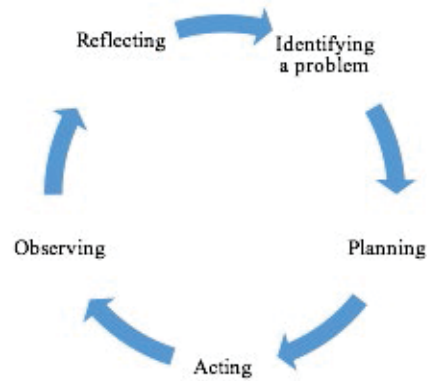


Figure 1: Action Research Model

Source: Dickens and Watkins (1999, p. 132-133)

The ability to successfully impart research skills and knowledge to student-teachers in teacher education programs depends on the knowledge and perceptions of teacher educators towards it (Ax et al., 2008). The methods used in teaching research, resources available, the competence of teacher educators and the organization of course content determine how and what student-teachers will learn in the research course.

The ultimate goal of research for teachers is to impact teaching practices that result from inquiry and self-reflection of what teachers know and do (Lattimer, 2012; Lundeberg et al., 2003). Engaging student-teachers in research to enable them to continue to learn through collaboration, self-inquiry and reflection depend much on their perception of it. Some student-teachers believe research contributes much to improve their professional knowledge and classroom practices (Ryan et al., 2017). Lattimer (2012) further asserts that research on teachers helps them gain a stronger professional identity and voice in their teaching activities. Student-teachers also improve students' learning results from the interactive collaboration they conduct with their teacher educators and the experienced teachers in school contexts who act as mentors in learning. However, Levin and Rock (2003) report the doubt of whether the collaboration that student-teachers claim is real or not, as they cite the definition of collaboration as the mutual gaining of understanding from the process and not mere participating in the process. Do teacher educators engage mutually with the student-teachers in collaboration or make them participate without a clear understanding?

Research offers a platform for teachers to change or try new instructional methods through observations and reflections they make. It helps address classroom challenges such as managing students' disruptive behaviours (Ryan et al., 2017). Again, research helps student-teachers innovate and personalize instructional strategies to suit the students' moods, needs, and interests in the classroom (Lattimer, 2012). The innovation enables student-teachers to understand students' interests and needs and justify the selection of appropriate teaching methods to meet students' learning goals. Student-teachers understand their students through systematically reflecting on their teaching practices and observing aspects of students' practices that require attention and improvements (Burbank, 2003; Lattimer, 2012).

The theoretical review presented has highlighted the way how research should be taught, its goal to teachers and the perceived benefit for teachers in their teaching practices. The empirical review provides a practical experience from various places where the research has been implemented to teachers. The purpose is to identify the reality in terms of the benefits of the course and the actual challenges that student-teachers' face in learning the course and using the skills to enhance their teaching practices.

Applying research skills in classroom situations among teachers has transformed their teaching practices and general classroom management (Spencer & Molina, 2018; Smith & Sela, 2005). The transformation has ranged from improved pedagogical methods, changing teachers' roles from the source of knowledge to facilitators of knowledge construction and new strategies for assessing learning. The application of research skills enhances the abilities of many teachers to identify a knowledge gap and improvise recourses to address that gap (Jakhelln & Pörn, 2018). Using research skills as a habit among teachers rejuvenates their pedagogical knowledge and constitutes professional development.

In their study, Ponte et al. (2004) found that some teacher educators have adequate research skills and work in groups with one member acting as a leader in guiding the process and not teaching. In this context, frameworks constructed by objectives emanating from stakeholders' expectations, guide teacher educators and researchers. These objectives of research covered broad aspects of teaching and learning. Teacher educators do not focus only on content knowledge but on

the general environment where students can smoothly acquire that knowledge (Junor-Clarke & Fournillier, 2012). The utilization of research skills broadens the professional horizon of teacher educators through the use of reflection and inquiry practices for acquiring new knowledge (Puustinen et al., 2018; Willegems et al., 2018). Therefore, the ability and engagement of teacher educators in research activities provide them with sufficient knowledge, skills and experience in research that elevates their capacity to facilitate research skills to student-teachers.

Effective teaching of educational research course to student-teachers requires teacher educators who are active in research. When teacher educators are active researchers, they will have adequate knowledge of research as they frequently conduct studies and share their reports for others to learn and acquire new knowledge (Munthe & Rogne, 2015). These teacher educators have practical experience with strategies that work in a different context and are aware of the frequently encountered challenges in conducting research and ways forward. In cases reported, when teacher educators act as researchers always collaborate with their colleagues to answer why, how and what student teachers learn from research and use this approach to help them grow (Junor-Clarke & Fournillier, 2012; Ponte et al., 2004). Collaboration needs to have a critical friend to help each other build new knowledge that will improve their practices and motivate student teachers to develop an interest in collaborating to do more research throughout their teaching career. Research in initial teacher education training programs is essential as it helps beginning teachers have the skills necessary to adjust and fit the working situations, environment, and conditions through their experience (Mitchell et al., 2009). However, research for STs does not imply that they should carry out large scale research or engage in publications. The research intends to help them gather data from their classroom teaching practices that will inform the need to change, sustain or innovate the best ways of helping students learn.

Ping et al. (2018) report that teacher educators value research because it strengthens their pedagogical knowledge in assisting student-teachers' learning through reflecting on their teaching practices and collegial discussions or workshops. In these workshops, teacher educators present their findings and observations as they participate as facilitators or as the one who conducts research (Erbilgin, 2019). The more teacher educators engage in research, the more they develop

effective implementation strategies. As experienced researchers, teacher educators contribute to a more vivid learning process and contextual and relevant examples from their research (Ulvik & Riese, 2016).

The descriptions above reveal that teachers who have engaged in research have practical evidence of how it has helped them improve classroom teaching practices. Teacher educators with a positive attitude toward research apply the skills to enhance their professional knowledge and influence their students to engage in research-based practices. Teacher educators who do not consider research as central to their professional growth have little or no influence on their students acquiring or applying research skills for professional growth. Therefore, the situation confirms a close link between perceptions and practices in research activities.

Partial understanding of research hinders its teaching in the programs and implementation. Zhou (2012) confirms that some teachers consider research a distant activity and detach it from teaching activities because of little knowledge. This little knowledge forces teacher educators to perceive research activities in teacher education programs negatively. When teachers develop negative perceptions toward research, the teaching will be of low quality and not fully enable student teachers to master the skills for conducting research. Such a situation tends to diminish the rate of learning and conducting research. Munthe and Rogne (2015) report that many teacher educators are qualified researchers, but it is doubtful if they are active researchers. Munthe and Rogne further add that qualification of teacher educators on research activities and how they influence teacher trainees. The claim proves that there is a close link between the knowledge of teacher educators on research and how the student teachers' ability to learn and conduct research in their courses and after completing their programmes.

Student-teachers perceive research activities or practices as time-consuming processes that frustrate them and inject additional responsibilities that obstruct the perceived benefits (Levin & Rock, 2003). Some studies conducted required follow-ups and close monitoring; hence, it is not easy to complete the process during initial teacher education training. Failure to complete studies upsets most student-teachers participating in the research activities. Also, they perceive research

as a hands-on activity that strengthens their self-confidence that enhances their professional ability (Lundeberg et al., 2003; Ryan et al., 2017). The confidence results from the discussion and the sharing of the understanding gained and the ability to defend the process with critical friends who help student-teachers to prove their knowledge gained in a rigorous process. There are varied perceptions based on individual experience, mode of teaching research and assistance that student-teachers have towards the research course.

James and Augustin (2018) and Ulvik and Riese (2016) reported that teachers who have been implementing research in their classrooms complained of time shortage as one of the obstacles. Another study by Penney and Leggett (2005) shows that teachers are too ambitious, thinking that research can solve all problems. In contrast, Penney and Leggett further reveal that in some cases, teachers believed single research could influence curricula to change in a country which was not the case (Penney & Leggett, 2005). Despite these shortcomings in how practitioners perceive or face concerning research in classrooms, teachers must enhance their research skills and capabilities to sustain school-based professional development practices.

Material and Methods

The study adopted a qualitative case study design. A case study design involves intensive analysis of individual units or units within a case or cases in which a researcher focuses on the process-tracing (Denzin & Lincoln, 2018). In this view, a case study design seeks to answer 'how' and 'why' research questions and focuses on studying contemporary events or phenomena (Yin, 2009). The study population includes teacher educators and student-teachers from initial teacher training programs participating in teaching and learning research courses. Teacher educators are responsible for interpreting the research course and teaching student-teachers, hence playing an important role in influencing student-teachers' perceptions. Student-teachers also play an important role in this study because they learn the course. Teachers need to sustain research activities throughout their careers as part of professional development.

The study area was Mzumbe University in Tanzania. The university offers four initial teacher training programmes that prepare student-teachers to teach in secondary schools in Tanzania. Seventeen student-teachers and two teacher

educators were purposively selected. The selection criteria were respondents who have studied the research course and have been in teaching practices after the course to see how it was applicable in a teaching context. Also, the study included teacher educators who teach the research course. These teacher educators had rich and practical experience in the research course to contribute to the study.

Data collection methods involved semi-structured interviews, classroom observation and documentary review. First, the researcher conducted a classroom observation for 14 weeks of the second semester, from March to July 2021. Classroom observation focused on obtaining data concerning the methodological aspect of the course and how TEs taught it and STs learned. The researcher interviewed 19 respondents to obtain their perceptions of the research course after completing the course and teaching practice. The aim was to get clear information concerning their perception after studying the course and applying the skills in the field. A documentary review also was conducted on some key documents, such as the research course outline and assessment tools (test and examination questions).

In the data analysis plan, the study employed a qualitative thematic analysis method that involved reducing the data systematically in a flexible manner without distorting its original intended meaning (Saldana, 2013; Schreier, 2014). Data reduction involves coding the data and developing categories that form the thematic pattern that makes a meaningful interpretation of the data. In the coding process, respondents were given codes ST and TE, i.e. ST A stands for Pre-service Teacher A, and TE1 stands for teacher educator 1. The researcher transcribed the interviews conducted in Swahili, then translated them to English, and then back to the Swahili translation. After several rounds of listening to the audios and reading the Swahili transcripts to understand them.

The study employed different data collection methods. The study employed the triangulation method to ensure the findings' trustworthiness, credibility, and dependability. Also, in data analysis, the researcher carefully handled the interview data to retain the original meaning. The purpose was to retain respondents' voices without distorting the original meaning. The researcher observed all research ethics. Respondents gave their consent to participate in the study, and the researcher maintained the anonymity of respondents and confidentiality of the information collected. Also, researchers protected respondents from physical and psychological pain and gave them the freedom to withdraw at any point when they felt insecure.

Results

The study intended to explore student-teachers' perceptions of the research course in initial teacher education training programmes. The findings have revealed the inter-connectedness between TEs and student-teachers' perceptions and the level of their engagement in research. The study has obtained three main findings i) tension between expectations and reality, ii) awareness of the importance of research skills, and iii) the contradictions that student-teachers experienced during the research course.

The tension between Expectations and the Reality

The study found that TEs and student-teachers' perceptions of the research course in initial teacher education training programmes depend on what they expected the course to offer and its reality. The tension of expectation versus reality emerged from critical areas of the research course, such as course objectives, content, instructional methods and strategies, the outcomes of the research course to student-teachers and the conditions that pertained in teaching and learning the research course.

Further, the findings have revealed that TEs expected the course objectives to state the actual behavioural change among student-teachers in learning and the ability to conduct research, but they were too general and vague. The course objectives and content of the research course hardly indicated specifically the expected learning competency and the research capabilities that STs should master for application in a classroom context. In classroom teaching and learning, the researcher observed that TEs using instructional methods such as lecturing had limited opportunities for students' engagement in hands-on learning.

Area	What PDTs Expected from the Course	The Reality STs Experienced
Course objectives	Research to enable STs Acquire research skills <i>"I believed the course objectives focused on improving teaching and the learning context" (TE1, 2020).</i> <i>The objectives of the course intended to help ST to address existing problems in the classroom (ST H, 2020)</i>	Research course objectives have been unrealistic. <i>I can say the course objectives are too general, so it requires specific teachers to make some changes to make the objectives focus on what students are required to learn (TE1, 2020).</i> <i>I did not know what we were required to achieve; the course objectives hardly reflected the skills to be applied in the classroom context (ST L, 2020)</i>
Course design and content	The design of the content reflects the available time and learning needs <i>It [research course] was designed specifically for teachers, I think it would have a lot of vivid and contextual examples from the teaching field, and that could help STs (TE3, 2020)</i> <i>I expected the course to expose us to understanding the researching skills and how to apply them in classroom situations (ST I, 2020)</i>	The content was broad and not time-bound <i>"The course content is very heavy, so we moved with a high speed because If you want to go into details, you won't finish the course" (TE 2, 2020)</i> <i>The content was broad and could not be covered as the COVID-19 pandemic reduced learning time, so we rushed without going deep into the broader content (ST L, 2020).</i>
Instructional methods and strategies	Using participatory (hands-on) methods to engage STs in the learning process <i>A teacher should design activities that involve the student in practising what they learn, like identifying a problem or practising how to gather data (TE2, 2020)</i> <i>"I expected to have more practices within the course. We could have written small projects and presented to consolidate our knowledge" (ST B, 2020).</i>	The use of participatory and non-participatory methods <i>I lectured because of time shortage, but I tried to give students assignments to write proposals or concept notes in groups (TE1, 2020)</i> <i>There is a need to change the teaching model, be more engaging, and have more time to learn and practice more individually, not to listen only (ST C, 2020).</i>
Assessment methods	Assessment should focus on evaluating competencies and abilities acquired <i>A teacher should design activities that involve students practising what they learn. And the assignments tools and activities of this course should be practical-based (TE2, 2020)</i>	Assessments were theoretical and content-based <i>The time was very limited, and the class was big, so I had to use groups instead of the individual learner, which failed to give me a clear picture of how much they have developed abilities to conduct research (TE1, 2020)</i>

	<i>I knew we would be required to demonstrate how we can apply research skills, but the course assessment required STs to recall information and not apply (ST J, 2020)</i>	<i>In the research course, the tests and examinations had objective items. I think that was wrong. We needed questions that want us to apply the skills (ST A, 2020)</i>
Outcomes of research course to STs	STs to master research skills and apply the knowledge to improve classroom practices <i>Research helps them to develop more understanding regarding their students, like better ways of assessing the learning achievements (TE2, 2020)</i> <i>the course will give us students the necessary skills to research how to improve the learning environment (ST H, 2020)</i>	Many STs can hardly master skills to conduct research independently <i>What amazes me is that the experienced TE taught the course, so you could have expected learners after graduating to have the research capabilities, but later, you find they cannot conduct it independently as you could have anticipated (TE3, 2020).</i> <i>"On my side, I completed the course without achieving the expected learning outcomes" (ST J, 2020).</i>

As students conducted mini-research as part of the requirements for the award of a Bachelor's degree, the findings revealed some extent of misconceptions among student-teachers. The study found that student-teachers faced challenges as some of the topics they selected for their research projects did not reflect the utility of research at the classroom level. As a result, STs felt more confused and developed negative perceptions of research; hence they disregarded it. Research is practical-based skills, and it requires hands-on instructional methods. The study found that due to factors like many students in the classroom, limited time for learning, and the content's breadth, it was difficult to provide appropriate assistance to each STs. In this regard, TEs opted for non-participatory methods, which had little impact on students learning.

The findings again show that student-teachers hardly achieved the learning outcomes of the research course as expected. The acquired skills inadequately enhanced student-teachers' confidence and ability to apply them in the classroom settings. The findings inform why many teachers in schools hardly engage in classroom-based research to help them reflect on their teaching practices for improvement. The findings revealed that the conditions of teaching and learning the research course distort the reality expected from TEs and student-teachers. Large classrooms, limited time, and huge context to be covered. Also, TEs' and student-teachers' attitudes affected teaching and learning. Table 1 presents the findings from TEs and student-teachers that show what they expected and the reality.

Table 1: Expectation Vs Reality of Research Course

Source: Researcher 2021

Benefits of Research Skills on Teacher Professional Development

The findings have revealed that most student-teachers are aware of the importance of research skills in enabling teachers to engage in professional development activities. Student-teachers have mentioned the activities that research skills enhance. These activities include reflective skills, self-inquiry skills and critical observation on various issues in the education context, particularly in the classroom situations.

TEs have also reported that research skills help teachers use gathered data to plan pedagogical interventions. The findings have revealed that research skills have enhanced teachers' ability to be more attentive to details in a classroom setting and observe the learning process, student interaction patterns, and the learning environment. In this view, findings show that teachers elevate their professional skills and practices that benefit students learning.

Table 2: Benefits of Research Skills

Importance of research skills to teachers	Supporting evidence from respondents
Research Contributes the Development of STs' Research Skills	"...Purpose of research for prospective teachers is to provide skills that will help them conduct a study to understand factors affecting teaching and learning" (ST D, 2020).
Help STs to Understand Teaching and Learning Environment	Research course is very important as it adds more contextual knowledge to teachers on managing schools' teaching and learning process. A teacher who is aware of the school's environment will have more examples in the learning process that comes from that particular environment, allowing students to link what they learn and what exists in their society (ST D, 2020).
Research Enhances STs Understanding of Learners' Intellectual Abilities	It helps to understand the learning pace of your learners, need to find extra time to assist learners and so on. In this way, learners who perform poorly will gain confidence and improve. A teacher who understands the learning pace of learners will never leave a single learner behind because they know how to move with the whole class. You can improve teaching methods and understand learners' problems, automatically improving your professional skills (ST B, 2020).
Application of research Skills Enables the Proper Selection and Use of Instructional Methods.	It helps to understand varieties of teaching strategies and methods for better classroom teaching. Still, it also helps us, students, to understand better ways of using those strategies or methods in delivering the lessons and managing students learning in general (ST I, 2020).

<i>The research contributes to Improving STs' Interpersonal Skills.</i>	<i>Sometimes action research can act as a mirror to reflect what you do in the class and its impacts on your students. Reflecting on your practices is a necessary skill for teachers to investigate how their actions are perceived, what are their impacts on learning, and maybe whether they hinder the learning process in one way or another (ST C, 2020)</i>
<i>Research Skills Elevate STs Ability to Use Assessment Results in Improving Teaching</i>	<i>Now I know how to use data collected from reflecting on what students do in the classrooms to improve the learning process and planning for future lessons. We have learned techniques and methods of collecting and using data (ST C, 2020).</i>
<i>STs Consider research as an additional responsibility in Teaching</i>	<i>"Most teachers in schools have several periods above the maximum required. So they cannot accept adding more responsibilities. I am not sure if I will manage to apply it" (ST N, 2020).</i>

Source: Researcher, 2021

The Challenges Experienced during the Research Course

The findings have revealed contradictions observed and noted by student-teachers who participated in the research interviews. These contradictions range from what TEs taught in the class, what they did in the field and the university policies guiding the whole research implementation process. For example, ST I has revealed that he faced a lot of contradictions in the whole process of studying and conducting research. For instance, she narrated that what the research course instructor taught in the class varied from what the supervisor, who was not a course instructor, directed her to do when conducting research. These are supported by her words as said that:

It is easy to conduct research but has a lot of confusion. A teacher who taught me in the course was not the one who supervised me in the report writing. Therefore, many things were changed and sometimes, I felt like I was starting to learn a new thing. There were contradicting issues, and the two teachers had varying perspectives and experiences with research (ST I, 2020).

Another contradiction emerged from accessing and reading various research books provided by TEs or which student-teachers searched online. The variation in content or language in different research books on how they explain concepts makes student-teachers fail to understand the concepts or relate them to what the instructor taught them in the class. For example, ST L reported how he was confused as some books do not reflect what transpired in research course sessions as follows:

The challenge I faced was searching right materials for the course. Sometimes you get the research books, but they do not flow as to how our lecturer was teaching, so to me as a beginner, I face a bit of confusion, and I cannot understand well what is correct for me to follow (ST L, 2020).

Lastly, student-teachers have faced another contradiction as TEs provided two different research report formats: field report format and research report format. The field report format did not require student-teachers to apply research skills, knowledge or procedures scientifically; rather, it required them to narrate what happened during their eight weeks of teaching practices in the field. The researcher observed that writing a research report required student-teachers to apply research skills like stating the problem, specific objectives, literature review and methodology. However, supervisors had varied opinions as some preferred field reports while others did research reports. This situation led to a contradiction among student-teachers. For example, ST B said, “...*although it was a bit different from others, we wrote a field report, but it differed from the research report*”. On top of that ST J supported this finding as he said that; -

We did a field report, but I seek to understand more about the research report. I have understood the research issues, but I need to study to understand more. There are six chapters in a research report in the university guidelines and four chapters in the field report (ST J, 2020).

The findings have revealed that TEs perceptions influenced some of the student-teachers' perceptions. When TEs find that the course content is disorganized and cannot be covered or adjusted teaching styles to accommodate many students, it results in negative perceptions. Negative perceptions include considering research as less important. Also, when TE1 perceived the research course as important regardless of its content design, the efforts he took to narrow and select important contents and use contextual examples, student-teachers developed the perceptions that revealed their awareness of the research course in their teaching career. Therefore, the findings have confirmed the connections between TEs' perceptions and student-teachers' perceptions of research courses in teacher education programs.

Discussion

The study intended to explore the contribution of educational research course taught in teacher education programmes toward teachers' professional development. The main findings revealed the tension between what STs expected of the course and what happened, awareness of STs on the benefits of research courses to teachers, and the challenges that emerged as they learned the course. The broadness of research course objectives makes it unrealistic and affects how teacher educators instruct and learn student-teachers, as Ulvik (2014) and Amin et al. (2019) reported. The broadness and unrealistic of the objectives and content predicts that student-teachers can hardly manage to achieve the expected research competencies; hence, they cannot conduct research independently immediately after completing the course. Amin et al. (2019) reported that the designed curriculum for research has irrelevant content concerning teachers' needs and inadequate learning time, resulting in abstract learning. The rushing in teaching the course results in superficial learning, and student-teachers will not go deep in comprehending the research concepts, which amounts to more tension for student-teachers. The findings resonate with Zhou (2012), who reported that when TEs have a huge workload and limited time, they fail to engage in teaching research fully. Further, Carboni et al. (2007) added that teaching a research course in one semester is insufficient for STs to comprehend the required skills and knowledge. Ulvik and Riese (2016) suggest that having more time in teaching research (Like two years as in their study) helps student-teachers develop a deep understanding and systemically internalize the skills and practices in their teaching practices for professional development.

The huge workload and time limit hinder TEs' engagement in assisting student-teachers learning research. The findings align with Qing-li et al. (2019) 's report that the TEs- student-teachers' ratio affects the support and assistance that students' teachers acquire in learning and conducting research. In teaching the research course, mixed instructional approaches involved learner-centred and teacher-centred. However, transactional methods that are less effective in assisting student-teachers to develop the expected competencies dominated the teaching (Soprano & Yang, 2013). The use of mixed methods in instruction is important in meeting diverse learning styles among learners since not all methods have equal impacts on each learner. Researchers Ulvik and Riese (2016) and Lattimer (2012) confirm that research has influenced teachers to innovate new instructional

methods and become more flexible in using multiple instructional methods in a single classroom session. Hence using multiple methods help each learner to meet their needs and interests in promoting learning (Aras, 2020).

Research skills and practices play an important role in helping teachers understand learners' intellectual abilities by reflecting on their behaviours and interaction patterns. The teacher consistently diagnoses learners' situations through various classroom activities and gathers data that informs them of the ability and needs of learners. Research practices enhance the ability of the teacher to understand well their learners and choose the right materials, design appropriate learning content and select the right instructional method (Junor-Clarke & Fournillier, 2012; Ponte et al., 2004). The continuous research enhancements result in teachers' professional development. In realizing the benefits of researching skills to teachers, there is a need to allow TEs to restructure the research course syllabi to match the content and the context of STs. It helps student-teachers acquire relevant skills to contribute to their continuous professional learning through engaging in reflective and inquiry activities. In their study, Ping et al. (2018) assert that engaging in research activities like reflection and inquiry contributes to one's beliefs and attitudes. Demircioglu (2008) supports that educators who understand the benefits of research are more likely to integrate it into teaching and inspire other teachers. Through these activities, teachers understand their teaching practices, classroom actions, the effectiveness of assessment tools and learners' progress (Puustinen et al., 2018; Willegems et al., 2018). Despite the importance of research, some student-teachers find it difficult to engage in research activities as it adds more responsibilities to teachers who already have huge workloads.

The study intended to explore the contribution of educational research course taught in teacher education programmes towards teachers' professional development. It intended to understand how student-teachers perceive the contribution of a research course in improving their teaching practices. Although the research course in teacher education programmes intends to inculcate reflective and inquiry skills for student-teachers, the teaching process does not help them achieve the course's expected outcomes. Student-teachers and teacher educators have tensions that emerge from what they expected of the course and the reality of the course design and learning environments. In realizing the potential of research skills for teachers, teacher training institutions should reconsider how to

improve the teaching of the research course to add value to the student-teachers they train. Teacher educators also should practice teaching innovation during the research course to enhance student-teachers develop adequate research skills. Benchmarking that has been done in discussion with various studies has revealed that most of the implemented pedagogical innovations in developed countries are research-based, such as school-based action research and lesson study. The study recommends that initial teacher education training institutions to revise their research course curricula to suit its applicability to teachers in the school context. Also, teacher educators should interpret the context and design simply so that student-teachers will develop the required skills and apply them in the school context.

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