

# Secondary School Teachers' Experiences of Using Action Research in Classroom Practices

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## Abstract

*This qualitative study reports part of an intervention study that investigated how four secondary school teachers enhanced their ability to participate in a teacher-led professional learning through action research. Specifically, this paper focuses on the secondary school teachers' knowledge and ability of engaging in action research to improve their pedagogical practices. The most important finding indicated that in the course of intervention, the teachers learned to carry out systematic action research as a form of professional learning that impacted their classroom practices. While the findings from this study cannot be generalized to other teachers and school contexts, the experiences of the four teachers provide some insights to other teachers and educational leaders on the use of action research.*

**Keywords:** *Classroom practices, collaborative action research, teachers' inquiry cycle, student learning*

## Introduction

In the field of teacher education, action research serves as a methodology in traditional research, as well as a form of teacher professional learning in workplaces (Hong & Lawrence, 2011; Ulla, Barrera, Acompanado, 2017). As a professional learning, action research enables teachers to discover existing problematic classroom situations and develop workable pedagogies to rectify them. As clarified by Norton (2009), this practice compels teachers to analytically investigate their own teaching and learning practices for the purpose of modifying them. Following its significance in inquiring classroom practices, the use of action research has been increasingly advocated by a considerable body of international scholars (Hagevik, Aydeniz & Rowell, 2012). In some places, such as China, Saudi Arabia and Phillipines, teachers

are encouraged to conduct action research to make possible implementation of educational reforms (Khan, Grijalva & Enriquez-Gates, 2019; Ulla et al., 2017). Thus, teachers' understanding of the use of action research is critical.

Teachers need to learn about action research strategies so as to transform their teaching routine accordingly. The understanding of action research process can help teachers appraise their teaching modality and hence assist students' learning. However, most of teachers still have a blurred idea of how to conduct action research, regardless of learning or hearing about it during and after their initial teacher education (Burns, 2010). These teachers may not be well trained in action research or find it difficult to apply the research skills at their workplaces. Indeed, studies show that teachers are not adequately prepared in their initial training programmes (Mills, 2013) and can hardly improve their action research through professional learning. To help teachers make meaningful inquiries, they need to be equipped with necessary competences for designing and executing classroom-based action research. Since most of the learning challenges occur in classroom environments, teachers' knowledge of action research is a key factor of student learning success.

In the classroom context, action research helps teachers to develop deeper knowledge of their teaching to promote students' academic achievement. This is due to the reality that there are different classroom challenges that cannot be effectively addressed, unless they are precisely identified. In Tanzania, for example, poor students' academic achievement is commonly attributed to ineffective teaching skills and teachers' inability to conduct formative assessment (Sumra & Katabaro, 2014; UNESCO, 2014). Such problems seem to be too general to be addressed through a single approach or collective measures. However, just a little discovery or achievement made through action research can improve teaching skills (Pelton, 2010). So, active research enables teachers to become reflective by critically analysing their teaching and students' learning environment. If students are not performing well in a particular subject, teachers can collaboratively work with their colleagues and students as well to transform their teaching strategies (Messiou, 2019). Action research helps participants to construct knowledge which can be used to find ways for improving students' assessment. Even if not for solving a specific problem, action research can be carried out to improve classroom practices (Ulla et al., 2017).

This paper presents findings on how four teachers from one secondary school in Tanzania engaged in the action research to enhance classroom teaching and learning. These teachers were involved in the intervention that aimed at developing teachers' capacity of participating in continuous school-based professional learning. While

engaging in this intervention, the teachers aimed at improving their classroom pedagogical practices, which is the focus of this paper. The paper answers four questions:

- a) What do teachers understand about the concept of action research?
- b) How do teachers use action research to identify problematic situations affecting teaching and learning?
- c) What is the impact of teachers' actions in classroom teaching and learning?
- d) How can teachers use action research to address classroom challenges?

### **Concept of action research**

Generally, the idea of action research was first introduced by a scholar Kurt Lewin, in the 1940s before it was expanded by Stephen Corey in the field of education (McAteer, 2013). Since the foundational work of these scholars, the ideas of action research have been widely used in various contexts across educational disciplines. Action research is increasingly considered to be an important form of teachers' professional learning and improved classroom practices (Ary, Jacobs & Sorensen, 2010; Creswell, 2014; Herbert & Rainford, 2014). Action research serves as an orientation to professional inquiry that has many theories and can be conducted in various ways.

Due to different orientations and practices, there have been different types of action research. These types include participatory action research, critical action research, school-based or classroom-based action research, practical action research, collaborative action research, as well as industrial action research (Ary et al., 2010). Creswell (2014, p.11) states that "action research means different things to different people". Thus, scholars term action research in different ways based on the purpose they serve. While action researches serve different purposes, they are all concerned with the involvement of individuals or groups of people in finding solutions to their own existing problems. This present study was a school-based action research that engaged a group of teachers who worked collaboratively to address challenges in their classroom practices.

### **Teachers as action researchers**

Action research is typically for teachers because it gives them opportunities to study about their own practices within schools. While the conventional research continues to be done by field experts, there is more research conducted by classroom

teachers (Mertler, 2009). Nonetheless, with limited knowledge of action research, many teachers tend to conduct it anyhow as an informal inquiry. The good thing is that when teachers engage in any form of inquiry such as action research, they learn how to deal with specific classroom challenges (Beck, 2017). Beck (2017, p.42) further clarified that “the broad learning teachers achieve through informal inquiry can legitimately be called research since it comes about through their sustained attempts to understand and improve practice”. Therefore, many teachers might be engaging in informal action research or inquiries as such. It is important to empower teachers as researchers for quality teaching and educational reforms.

Teachers can perform action research as individuals or in teams. However, scholars are increasingly advocating collaborative action research to maximize the use of scarce educational resources (Messiou, 2019). By researching together teachers can easily address their classroom challenges. Collaborative research is a professional learning process conducted in the natural setting, such as teachers working together as colleagues or with their students and outsiders to improve classroom pedagogical practices (Ivankova, 2015). In such type of research, researchers who are outsiders tend to dialogue with teacher participants to share about their expertise and experiences towards achieving the intended goals. In collaborative research, there is a minor difference between the researcher and participants, because participants are also co-researchers. Outsider researchers can help teachers to learn necessary procedures and develop abilities to carry out independent action research (Herbert & Rainford, 2014).

### **Action research for successful classroom practices**

Classroom practices include all actions made by teachers and students during teaching and learning process. During action research, teachers study their own teaching pedagogies, nature of their students, classroom interactions and assessment procedures for the purpose of improving them (Ioannidou-Koutselini & Patsalidou, 2015). Hong and Lawrence (2011, p. 1) argued that “it is possible for teachers themselves, through their own problematization of the teaching and learning process within the contexts where they work, and through their own research to closely examine their role as change agents”. Cerbin and Kopp (2006) commented that in classroom-based action research, teachers have opportunities to inquire on every aspect of the teaching and learning process that ranges from lesson planning to evaluation. Therefore, effective classroom practices mainly depend on the teacher’s demonstrating expertise in subject content and the ability to appropriately communicate it based on the nature of learners and teaching environment. This is

due to the fact that different classes are not expected to be similar and even in the same class there might be different experiences with time.

Teachers' pedagogical practices are viewed as essential aspects for quality teaching. Further, teachers' knowledge and practices about teaching can shape students' learning. Pelton (2010) adds that action researchers believe that the real solutions for meeting the challenges of educating today's students lie on the expertise of teachers. During action research, teachers are constructing new teaching pedagogies which make them not just consumers of knowledge but also producers. Hong and Lawrence (2011) indicated that action research stands to be a useful approach for broadening teaching skills and gaining a deep understanding of teachers' own weaknesses and that of their learners and environment. This is due to the reality that teachers need to be skilled in the subjects they teach and understand how their students best learn. Overall educational research reports cannot be meaningful if teachers themselves do not take agentic role to research their own teaching environment and establish strategies to enhance them. In resource-constrained education system such as in Tanzania, the success of a student at school is largely influenced by the teachers' competencies and level of commitment in teaching (HakiElimu, 2009; Hardman et al., 2015).

### **Action research process**

Action research is a spiral cycle that commonly involves four main phases in the process of planning, acting, observing and reflecting (McNiff, 2013). These processes provide systematic strategies for identifying research problems and solving them. However, in reality, the strategies are flexible and interlinked in order to achieve a particular research goal. Therefore, teachers tend to contextualize their classroom-based action research practices depending on the research problem, availability of resources and the use of data. The following paragraph explains about the action research process through its four phases as indicated in the literature (Creswell, 2014; McNiff, 2013).

During the planning phase, teachers as researchers reflect on what to be inquired. The teachers need to identify the problem to be researched from their teaching and learning environment. Different sources of information can be gathered by teachers that can help to narrow down the research problem. For instance, Ulla et al. (2017) clarify that this phase does not only focus on problematic situations, but also on some teaching and learning areas that need improvement. This early process is referred to as initial reflection. Thereafter, teachers can develop an action plan that will guide them in the process of addressing their respective classroom challenges.

Acting is the second phase of action research where the teacher participants implement their action plan. Throughout the acting phase, teachers observe the teaching and learning interactions and record their reflections. The essence of acting is to bring about changes or improvements. Then, observation occurs during implementation of the action plan. In this phase, the researcher is interacting with participants and photographs may be taken for future reference. Reflection is considered as the last phase in which teachers interpret the impact of the action plan that was directed towards addressing the teaching and learning challenges. Teachers are urged to reflect on every aspect of the action research. Reflection ought to occur throughout the action research process to monitor the progress. During the final reflection, teachers determine whether the research cycle has successfully addressed the problem and if not they may decide to continue with the second cycle until they are satisfied with their achievement.

### **Supporting teachers' use of action research**

Like any other form of professional development, conducting action research cannot occur without any constraints. Lack of financial support, poor teacher commitment, lack of knowledge, limited school calendar and absence of clearly defined policy are common factors that might hinder teachers' use of action research. While teachers can be supported by external researchers to organize their action research, they need different resources to carry out their study. As such, support of the school leaders is considered to be more powerful if teachers have to maintain their research practices. However, support cannot be necessarily termed in terms of finances, but rather it can be in kind as determined by the nature of problems at hand. Offering time for teachers to do action research alone can help to facilitate their action research activities.

## **Methodology**

### **The study sequence**

This study is part of a large study that investigated changes in teachers' understandings and practices of engaging in school-based professional learning (SBPL) through action research. The large study had two phases in which the first phase began with a baseline survey that aimed at obtaining a broad picture on teachers' participation in SBPL. The survey involved 15 schools from 4 districts in Pwani region. Baseline findings indicated the need for adequate and relevant SBPL. So, this particular paper reports on the second phase of the study that was conducted after survey.

In the second phase, the intervention was designed to help teachers improve their knowledge and skills of engaging in SBPL. In order to make the intervention manageable and realistic, a small group of teachers from a single school was needed to work as a community of learners that could provide insights for other teachers.

Out of fifteen secondary schools that were involved in the survey, one school from Kisarawe district was selected to participate in the intervention. This school was selected based on the high level need of the intervention indicated in the survey, but also there were other factors such as proximity to the researcher's office, availability of teachers and willingness of the school management to align with the intervention tasks. The school had 303 students and 50 teachers and it was located at the District's town centre. On average, 40 percent of students failed in their national examinations consecutively for five years, prior to the study. So, teachers in this school were keen to develop some skills for engaging in professional learning that was cost-effective and relevant in order to support their students' learning challenges.

To provide subject expert support during the intervention, the researcher chose to work with social studies teachers. Therefore, prior to the implementation of the intervention, all social studies teachers in the selected school were invited to participate. After explaining to all teachers about the learning tasks to be carried out during the intervention, amount of time needed for the programme and type of data to be collected, it turned that four History teachers who were all women volunteered to participate. Given the use of inquiry cycles in action research, working with a small group of teachers was a better decision. As recommended by Clauzet, Lick and Murphy (2008), a successful action research is the one with fewer participants that are well informed and willing to work as a team.

Therefore, four female History teachers from one secondary school in Kisarawe, Pwani region were involved in the intervention with an expectation that other teachers and schools could draw insights from their work. More importantly, these teachers emphasized that most of their students did not perform well in final History examinations and thus they wanted to learn how to update their teaching skills to improve students' learning. Additionally, these teachers were diverse in terms of the classes they taught-ranging from Form One to Four. Three teachers had Bachelor's degree in Education, while the other one had a Diploma in Education. While two teachers had seven years of working experience each, the other two teachers had 11 and three years respectively. Taken together, the experiences of teachers teaching in the same school and willingness to work as an action research team to address challenges in their classroom practices provided an appropriate group of participants.

An inquiry cycle of professional learning was embedded in the collaborative action research design as a framework to guide teachers engage in action research (Timperley, Kaser & Halbert, 2014). Similar to another Tanzanian study by Msonde (2011) that involved a group of three teachers to implement the Japanese lesson study model (Cerbin & Kopp, 2006), the inquiry learning cycle has been commonly applied in New Zealand and Australian teachers to improve classroom practices (Timperley et al., 2014). The inquiry cycle is a type of a learning community that facilitates improvement in classroom practices with action research as a central component (Clauset et al., 2008). In the inquiry cycle of the present study, the teacher participants had an opportunity to work collaboratively and learn how to engage in action research phases to address teaching and learning challenges in their classes. Teachers, with the help of the facilitator, planned their inquiry cycle (action plan) and implemented it (acted) as follows: They first identified students' learning problems, then discussed about what they needed to learn as teachers to address the problems identified. Thereafter, the teachers engaged in professional learning to find out solutions to the problems. The teachers learned independently from different sources such as journal articles, YouTube tutorials, educational websites, discussions as well as observing how others taught in classes. Once the teachers were satisfied with what they learned, they tried it to their students and assessed its efficiency. While implementing their action plan, these teachers were observing and reflecting on their performance and recorded the findings in their reflective journals/diaries.

Teachers in this study participated as co-researchers who engaged in a learning cycle to identify teaching problems, plan actions, implement action plans, observe, reflect and record practices. In collaborative action research it is important for researchers to realize their position (McNiff, 2013). So, researchers participated as outsiders in this particular study who facilitated the teachers' learning and collected data, but also as participant observers. Ary et al. (2010) suggest that, among the responsibilities that can be assumed by a researcher in collaborative action research is that of being a resource person to whom the participants can get advice and information. It was interesting to note that by engaging in the three inquiry cycles, the teachers developed some knowledge and skills in the use of action research to improve their classroom teaching.

### **Data collection and analysis**

Semi-structured interviews, focus group discussions, planning meetings, reflective journal and observations were used to gather information regarding changes



occurring to teaching and learning practices. One interview was conducted at the beginning of the study to identify classroom challenges being experienced by teachers. For example, the participants were asked “What do you know about engaging in inquiry cycles? The second interview was held at the end of the intervention to reflect on the changes made to the action research and pedagogical practices. In this interview, the teachers were asked to explain factors that facilitated their participation in the action research, as well as what worked or did not work for them during the intervention.

Focus group discussions were held with four teachers after completing one inquiry cycle. Therefore, three focus group discussions were conducted during the intervention. The discussions helped the teachers to share experiences, challenges and advise on how to improve the overall action research process. As advised by Ary et al. (2010), specific themes were shared with teachers to help them prepare in advance for discussions. The focus group discussions generated relevant information about the progress of the intervention because the teachers had an opportunity to share experiences on how to improve the classroom practices. For example, teachers were asked to explain factors which affected the implementation of the inquiry cycle. Four formal planning meetings were held throughout the study to make collaborative action plans for addressing specific classroom challenges. In between these plans teachers met several times informally to discuss and help one another on how to modify their teaching.

Using the observation guide, three classroom observations were conducted by the researcher to see how the teacher participants implemented their action plans during teaching. Informal observations were also done out of class whenever the participants engaged in their meetings. The observations were recorded in the researchers' reflective journal. Additionally, participants recorded all their experiences and thoughts regarding the intervention in their reflective journals or diaries. Each participant kept her journals and shared with the researcher when requested. This practice is in harmony with McNiff (2013) who argues that researchers and co-researchers need to keep reflective journal to track changes of knowledge and practices during action research.

The computer software NVivo 11 was used to analyze the collected data. Data transcription was done alongside data collection process in accordance with Mertens (2015) who advises researchers to do the transcription as it provides an opportunity to actively engage with the data. Data was coded and categorized into themes for conceptualization.

## **Findings and Discussion**

This section presents the research findings from the four teachers whose pseudonyms are Teacher A, Teacher B, Teacher C and Teacher D. The findings are presented in response to the four research questions mentioned earlier and discussed with reference to the teachers' prior knowledge of action research in teaching and learning and their changed practices.

### **Teachers' understanding of the concept of action research**

In the first interviews, teachers were asked to share their understanding of action research so as to elicit their prior knowledge that would help to plan the best ways to support them. All the teachers claimed that they had not been involved in any research activity. It was thus apparent that all four teachers were not familiar with classroom-based action research. However, when probed further, the teachers admitted that they performed a kind of research that was in the form of informal inquiries in order to solve certain classroom challenges. As we proceeded with the action research process through the inquiry cycle of professional learning, the teachers came to realize that the informal inquiries they previously practised were neither systematic nor focused.

In the final interview, Teacher A commented that her understanding of action research process and procedures was improved in the course of the study:

Previously, I didn't know what it meant by conducting action research...  
It is like doing a kind of research, until you are satisfied with the achievement of your goal. You develop a strategy of learning, which you are sure it is going to help your students to learn and improve.

It was interesting to note that the teachers learned about the systematic application of action research, while practising it. It was realized that understanding what action research is and what it does in improving teaching and learning practice is important to every teacher. Once teachers are assisted to conduct systematic inquiries they can make positive changes to their teaching techniques and eventually improve classroom practices.

The most striking result to emerge from the data is that although the four teachers were doing formal action research for the first time, they demonstrated mastery of basic research skills and modified their classroom practices. Burns (2010, p.6) observed that action research can also seem like a 'scary' thing to do if you are more used to classroom teaching; it takes time and it might mean making changes that

take us out of our comfort zone. These teachers are supposed to have learned about action research during their initial teacher education programme, but it is obvious that they did not practice the knowledge obtained. Similarly, Ulla et al (2017) in Phillipines found that most teachers conducted research activities only when they were compelled by the requirements during their Master's programme. These teachers lacked knowledge on how to conduct a systematic inquiry to address the students' problems. Thus, equipping teachers with action research procedural skills can help them to continue addressing problems or issues affecting their classroom practices.

### **Identifying problematic situations that affect teaching and learning**

At the commencement of the study, all four teachers were able to identify problematic areas affecting classroom practices and establish research objectives. As expected, none of the teachers had a clear thought of what could be a real problem that challenged their teaching and learning. To understand the nature of the problem, the teachers prepared a set of questions, which resulted in four sources of classroom problem patterns. So, the problematic factors included nature of the subject, parental support, teaching styles and students.

Teacher A for example, mentioned that poor organization of topics in the History subject could be the factors that affected students' learning. She said during the first interviews that "I don't know what the real problem is... History topics are confusing. Personally, I see the topics are not well organized ... it is difficult for students to follow." Her views were also reflected in her reflective journal. Teacher A was of the view that, if the topics were well organised it would be easy for the students to learn. In addition, this teacher felt that poor mastery of the English language was a critical problem that affected teaching and learning, followed by students' disinterestedness in the History subject and lack of parental support in checking the learning progress of their children.

Struggling to identify which exactly was the factor affecting her students' learning, Teacher A continued to clarify the circumstances during the interview. She explained that "they (students) are poor in English language... it is difficult for them to understand... they openly show that they don't like studying... they are also lazy... I think the problem is the environment... they come from poor families." Poor language and students' laziness were also pointed out by the other three teachers as factors that impeded students' learning. For example, Teacher B commented that "they (students) are not bothered; after all, they are waiting for your subject period to end." This teacher was of the view that some students in her class were lazy and not interested in studying History.

Based on the above excerpts, it is apparent that poor classroom performance was attributable to numerous factors which could not be articulated well by the teachers. The teachers claimed that learning challenges were not only emanating from the classroom practices of teachers and students, but also from parents. In some ways it appeared that parents ignored classroom teaching and learning because they did not work hand in hand with teachers to support students' learning. With these diverse factors, it is obvious that the teachers were supposed to establish the real source of the classroom learning problems in order to help their students improve learning.

It was further noted during the intervention that ineffective teaching was not just caused by the syllabus, students or parents but by the teaching styles employed by the teachers. In the first interview, for example, Teacher B repetitively stated that sometimes she just taught for the sake of fulfilling her job descriptions. While, sharing her teaching experience, she exposed: "Truly, personally, I don't like History subject... sometimes I asked another teacher to teach it for me." She also explained in the planning meeting that students cannot read books, instead she was giving them lesson notes to copy: "It is hard for them to read from a book... if you summarize the same notes... they read." It was evident that Teacher B employed passive teaching strategies that did not raise students' interest in learning. Similarly, Teacher C commented: "Instead of giving them (students) notes to copy, I decided to dictate (read for them)." The views from Teacher B and Teacher C suggest that these teachers neither found proper solutions to address their students' learning problems, nor did they apply interactive teaching strategies. After investigation, the teachers eventually agreed to improve their teaching techniques and see how they could bring changes to their students' learning. Each teacher established her own research objective that aligned with the intervention goal of developing school-based professional learning as stated below:

- Teacher A: to investigate ways for promoting students' reading for understanding of historical concepts.
- Teacher B: to examine skills needed for helping students to improve their note-taking skills in History.
- Teacher C: to identify tips for writing good essays and assist students to improve their essays in History.
- Teacher D: to find ways for helping students to verbally express their ideas and demonstrate understanding of Historical concepts.

The findings of the study indicated that when engaged in the action research cycle for the first time all four teachers were not certain about the cause for the classroom teaching and learning challenges. Two teachers attributed classroom challenges

mainly to students' low intellectual abilities and lack of interest in the studies. In the same way, a small scale study with Cyprus teachers indicated that at the beginning of the action research "teachers did not realize their responsibility for students' ... (and) failed to question their teaching practices and identify possible inadequacies in their teaching" (Ioannidou-Koutselini & Patsalidou, 2015, p. 136). This finding suggests that sometimes teachers feel that they are blameless and this feeling may affect their teaching efficiency. In this case, it is difficult for teachers to come up with proper solutions to address existing classroom challenges. Presenting an actual classroom situation in Italy, Burns (2010) indicated that teachers did not know what was actually happening with their language classes until when they established specific questions to understand them.

### **Planning and implementing actions to improve teaching and learning**

After realising the nature of teaching and learning challenges and establishing research objectives, the teachers collaboratively planned some actions to improve their classroom situations. With the help of the inquiry cycle of professional learning, two main actions were consolidated. These actions included: promoting students' interest and ability to learn, as well as using alternative teaching strategies.

#### ***Promoting students' interest and ability to learn***

After engaging in their professional learning, two teachers came to realise that students were capable of learning when they obtained appropriate support. Therefore, teachers desired to change their negative attitudes towards students' learning and started encouraging them. To this effect, students were offered more time to engage with learning materials. For example, Teacher D who taught students about verbal expression demonstrated a shift of perspective when she encouraged students to speak freely without being worried about their poor English language. Eventually, students developed ability and some confidence in their learning. This shift of practice was also noted by the researcher during classroom observation: "This question raised students' curiosity to learn... students were trying to give varied arguments... they were comfortably mixing Kiswahili with English." The teacher gave students opportunity to speak what they wanted about the lesson under discussion just to help them build confidence in the new learning environment. The teacher was polite and encouraged students to continue expressing their ideas. When finally interviewed, Teacher D claimed: I tried to help all students, but still there are weaker students who are also improving gradually. Try to compare the

first time when you came to my class... students have now developed some sort of what I may call it academic freedom.

The claim above suggests that previously students were not given enough chance to share their views during teaching and learning. Once students were encouraged to share their understanding, teachers discovered their lines of weaknesses and assisted them accordingly. In the same way, Teacher B reported that her Form One students could learn better as contrasted to what she used to believe before. Previously, these students used to copy notes from their teachers and they could not make meaningful reading out of them. When she started teaching the students new skills on making notes and learning for understanding they demonstrated some improvement. In the same line, Teacher A later confirmed that it was necessary for them as teachers to change their attitudes towards students' learning ability so that they could assist them. She concluded that as teachers, they did not make serious efforts to build on the little potentials demonstrated by students. She argued that "Previously we used to ask students to read from here... to there... without showing them how." Towards the end of the action research cycle, all four teachers noted that they were capable of addressing various classroom challenges.

Taken together, the findings in the present study suggest that teachers need to do things differently to help their students learn better. Similarly, the teachers in this study realized that they failed to question their weaknesses and so they had to look for best solutions. The results in the present study align with those of Hagevik et al. (2012) who conducted an action research with twenty interns in the United States (US). Hagevik et al. (2012 p, 8) indicated that the interns appreciated that action research is the process that "gave them the opportunity to question their existing personal beliefs and to reform their personal theories upon which change in practice could support effective student learning." Indeed, students' learning needs are obviously valued if research-based practices are employed during teaching.

### ***Applying alternative teaching techniques***

It was also found that when teachers applied alternative teaching techniques their students learning improved. Before engaging in the collaborative action research, Teacher B relied on note-giving technique as she described in her final interview: "I write all I wanted to teach and start teaching students using notes on the blackboard, by reading a sentence and explaining." However, when engaged in the action research the teacher learned how to search relevant strategies for addressing classroom learning challenges. This teacher found that there were better ways of helping her students to take notes while teaching or reading, rather than just letting

them copy notes. She was surprised to see that students were making progress when she introduced some note-taking techniques, such as *tree-branches*, *bulletin* and *spider diagram*. These strategies were also applied by Teacher A in her Form Four class when she later combined teaching reading skills for understanding with note-taking and essay writing. During the planning meeting and focus group discussion, Teachers commented that they also employed a variety of teaching techniques in their classes and the students were making some progress. They clarified:

Since we have learned a lot of skills from this project... this time, I wanted them (students) to combine the reading with writing and talking... it is just one of the strategies for improving their reading skills... Through questioning... they expressed about Maji Maji war (topic) and that was after reading the passages.

Teacher C, discovered that her class was previously bored during teaching because of the methods she used. So, she intended to make the class active while helping them with some tips on how to improve their essay writing and pass their examinations. She explained that: "I have learned good stuffs... do you remember you talked about energizers when teaching? ... You cannot teach using the same style throughout the time." Apart from helping students step-by-step to write essays, Teacher C realized that she needed to use more interactive teaching methods that aroused students' interest in learning. Teacher D also reported: "I prepared a story and read it. Later on, I encouraged students to role play." So, these teachers discovered that applying simple and interesting learning activities provided students an opportunity to share ideas during classroom teaching which could improve their learning. The findings suggest that students have potential knowledge and skills that can be promoted through appropriate teaching strategies and encouragement.

Reflecting on the actions developed by teachers during the present study, it is evident that teachers needed to approach teaching in different ways to achieve the intended objectives. These findings are similar with those of Hong and Lawrence (2011) who found that action research process provided candidates with an authentic opportunity to apply strategies introduced in the Reading Methods course and reflect on their own practice. Therefore, teachers need to engage in action research so as to accumulate a bank of teaching strategies. Consequently, employing a variety of teaching strategies is critical due to the reality that classroom situations differ across time and space. In collaborative action research teachers are confident and interested in applying teaching innovations. The participants of action research need to reflect on every aspect of their practice to facilitate the designing of action plans. It is this reflection that helped participants to make changes in their knowledge, attitude and practices.

## Teachers' reflections on the impact of their improved actions

Overall, three teachers articulated the significance of engaging in action research and its impact in the teaching and learning process. The following excerpts from the three teachers represent their views of the actions employed in changing their classroom practices.

Teacher A: "I discovered that my students did not know how to read (a textbook), so I needed to think of an alternative technique... after engaging myself in a thorough search for knowledge, I discovered a lot of things..."

Teacher B: "In order for a student to take or make good notes for a meaningful learning, it is not wise to give prepared notes in advance... Asking questions while teaching or immediately after teaching... was a good technique. This made students learn to jot down important information while I was teaching."

Teacher C: "When they start writing you can see the difference... I have realized that my class is becoming active."

These teachers came to realize that their efforts in investigating their teaching and students' learning were not in vain. They saw students' learning interest increasing and learning abilities were strengthened. After engaging in the action research through three inquiry cycles of professional learning, teachers indicated that they were satisfied with the level of achievement and agreed to end up their investigation. The teachers felt that their engagement in the action research did not only increase awareness of the students' learning problems and find solutions, but they also learned that they could conduct systematic action research at any time.

The present study has shown that engaging teachers in collaborative action research was a worthwhile process. Further, Norton (2009) clarifies that collaborative action research gives teachers the opportunity of working together and sharing creativities that could help them to challenge existing classroom practices or change them. By involving teachers in action research, there were positive changes to their expertise in teaching skills. So, this result is central in the Tanzanian context where action research is not commonly done by teachers in school platforms, except for informal inquiries.



### **Factors enabling teachers to engage in action research**

While it was evident that teachers could not engage in action research without the help of the researcher or in the absence of adequate teaching and learning resources, it appeared that setting time, teachers' awareness and commitment were the important enablers. It was found that all teachers needed quality time for them to focus on their research activities without regular interruptions. The idea of creating extra time for research came from teachers themselves after realizing that action research could impact their teaching and career in general. For instance, Teacher D commented that "you should be ready to study or work at any time... I can do it from home... at tea break." Similarly, Teacher A explained that she used her free time to work with the other three teachers so as to implement some actions that emanated from the research project.

It was also found that once teachers were familiar with the research procedures, they committed themselves to work more. Teachers' commitment to work as a team enabled them to learn some research skills and put them in practice. This teamwork enabled the teachers to share a few teaching and learning materials and experience to address specific classroom challenges. Teachers can increase their commitment to collaborative learning when they realise its potential to classroom practices. Action research as a collaborative endeavour in schools is considered as a form of professional development for implementing teaching innovations.

### **Conclusion and Recommendations**

Action research might not be commonly done by teachers in Tanzanian secondary schools, although it is packaged as a research topic in the initial teacher education curricula. Perhaps, action research is not properly taught and also not emphasized in schools. Teachers who participated in this study had conducted some informal inquiries whenever they came across classroom challenges that needed thorough investigation. However, these teachers needed support in terms of knowledge and research for them to engage in systematic action research that was meaningful enough to improve classroom practices. This is because teachers encounter several teaching and learning problems that require understanding in order to address them. When organized effectively, action research can empower teachers, promote students' learning and change the school culture.

This study provides insights for policy makers in Tanzania to develop policy strategies that can help teachers get the opportunity to conduct professional learning in school using action research. So, giving teachers time to conduct

their professional learning and offering them some expertise in action research is fundamental. Presidents' Office, Regional Administration and Local Government (PO-RALG) also set up mechanisms for guiding the implementation of policies regarding school-based professional learning that promote action research in schools. Similarly, school managers and the heads of schools should encourage teachers to form communities of learners and carry out collaborative action research in schools. The experiences of the four teachers have also provided some procedures on how teachers can engage in collaborative action research to address classroom teaching and learning challenges.

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