Challenges Faced by Secondary School Teachers and Learners in the Implementation of Practical Skills and Possible Solutions for the Realization of Vision 2025 among Ordinary Level Secondary School Learners in Kilimanjaro Region, Tanzania

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Abstract: Vision 2025 recommends that education should lead to high quality livelihood for all Tanzanians. Challenges and possible solutions of implementing practical skills have not been documented in Kilimanjaro Region, Tanzania, hence the researcher investigated them. This study employed convergent mixed methods research design with questionnaires, interview guide, document analysis and observation schedules. Major challenges were difficulty in preparing practical skill activities, inadequate qualified secondary school teachers in practical skill subjects and inadequate funding of practical skill facilities. Possible solutions included education planners to plan refresher courses for teachers and enough budget for practical skill activities. Recommendations included, all secondary schools should consider introducing at least one practical skill subject focused in the study such as agriculture.

Key words: Implementation, Practical Skills, Challenges, Vision

Introduction

The Vision 2025 which was launched in 2000 has three pillars namely, high quality livelihood for all Tanzanians; good governance and rule of law; a strong and competitive economy (Planning Commission, 2000). Vision 2025 recommends that education should lead to high quality livelihood for all Tanzanians; developmental mind set and empowering culture; development of oriented culture, hard work and creativity, education as a strategic change agent, promotion of science and technology education, promotion of information and communication technologies (Planning Commission, 2000). In this study the focus was on one of the Vision 2025 objectives which is high quality livelihood for all Tanzanians expected to be attained through strategies which ensure the attainment of a level of tertiary education, hard work, and creativity through implementation of practical skills among learners for the realization of Vision 2025. These were to be achieved through education by focusing on specific subjects. Vision 2025 targeted subjects such as agriculture, business, ICT, together with STEM subjects namely science, technology, engineering and mathematics. The Ministry of Education, Science and Technology (MoEST) has identified these subjects and teachers are being trained in these subjects in ear marked science colleges and universities. These subjects are also stipulated in the reviewed curriculum (TIE, 2013). These subjects are taught in some schools as optional and in other schools as core subjects. The question is that what are the challenges faced by teachers and learners and possible solutions in implementing practical skills for the realization of Vision 2025 for the targeted subjects? This question was addressed in the findings of this study.

Implementation of practical skills among secondary school learners has been a great concern to educationists. For example, Nyerere's idea of Education for Self Reliance (1967) emphasized integrating theory and practical skill activities. The secondary school curriculum was revised by TIE (2013) to be in line with the expectation of Vision 2025 which emphasizes strategies such as demonstrating practical activities, developing practical projects for learners, integrating ICT with teaching and learning, organizing field trips and practical skill activities such as farming, livestock keeping, making bricks and building houses, masonry, electrical

installation and carpentry. What is not known is whether teachers and learners are prepared for these practical skills. What are the challenges faced by teachers and learners and possible solutions towards implementation of practical skills among learners? This study therefore focused on the challenges faced by both teachers and learners and possible solutions on implementation of practical skills for the realization of Vision 2025. The government developed education programmes through MoEVT (2010) such as Secondary Education Development Programme, SEDP1 (2004-2009) and SEDP 11 (2010-2014) which emphasized technical education, ICT application and promotion of skills development. Education training policies were also formulated such as ETP, 1995 (MoEC, 1995) which emphasized learners to learn technical skills and vocational skills. All these developments have been geared to implementation of practical skills among secondary school learners in order that Vision 2025 can be realized. But what are the challenges faced by teachers and learners on these developments? Are teachers eager to teach and receive the developments positively or not? If yes, then implementation of practical skills for the realization of Vision 2025 will be effective. But if the teachers and learners are faced with challenges in these developments, implementation of practical skills for the realization of Vision 2025 will not be possible. These concerns are in line with the theory guiding the study (ORC) whereby if teachers and learners are faced with challenges then, implementation of practical skills among secondary school learners will be affected.

Statement of the Problem

Since Vision 2025 was launched in 2000 (Planning Commission, 2000), many curriculum innovations have been put in place. Yet, stakeholders, education officers, teachers, learners and parents are still concerned with ordinary secondary education in leading to the realization of Vision 2025.Practical subjects have been introduced and made compulsory to ensure learners left secondary schools with practical skills. What is not known is whether the teachers have been trained on teaching these practical skills among learners and if they have been duly trained, it is important to find out if they are actually teaching as recommended. Few research studies have been done on challenges faced by teachers and learners and possible solutions on the implementation of practical skills among learners such as Bosser *et al*. (2015) Sweden; Mungoo and Moorad (2015) Botswana; Machingambi (2017) Zimbabwe; Tshabangu and Msafiri (2013) Tanzania; Siril *et al*. (2013) Tanzania. These studies have examined challenges faced by teachers and learners in implementing practical skills in general in different countries. Few studies have dealt with challenges faced by teachers and learners and possible solutions with particular reference to Vision 2025. No known particular study has dealt with challenges faced by teachers and learners in implementing practical skills for the realization of Vision 2025 among secondary school learners in Kilimanjaro Region, Tanzania. Also up to now, we do not have proper documentation to see whether we are moving towards the attainment of Vision 2025 through secondary education. Therefore, the purpose of this study was to document this study and find out the challenges faced by teachers and learners and possible solutions in the implementation of practical skills for the realization of Vision 2025 in Kilimanjaro Region, Tanzania.

Research Questions

The study was guided by the following research questions.

1. What challenges are faced by secondary school teachers and learners in implementing practical skills in Kilimanjaro Region, Tanzania?
2. What are the possible solutions to the challenges faced by secondary school teachers and learners in implementing practical skills in Kilimanjaro Region, Tanzania?

Theoretical Framework

This study was guided by the Theory of Overcoming Resistance to Change (ORC) by Coch and French (1948) who suggested that change can be directed, managed and controlled. The model assumes that success or failure of curriculum implementation is dependent on how the curriculum developer influences the curriculum, the teachers, the students and the public because they are the ones who may resist change at the time of introduction of a new programme. In effect the model advocates for identification and effectively dealing with the concerns of the teachers during implementation process (Coch & French, 1948).

If we desire change then we must address people's misgivings, their misapprehensions, or other such related factors. To get the desired result curriculum developers should identify and deal with the concerns of the staff in various educational institutions when implementing new curriculum (Coch & French, 1948). At normal circumstances, people want to change but at the same time have certain concerns. This creates some resistance at the outset. Success or failure of implementation of practical skills then would depend on whether or not a teacher overcomes the resistance (Ahmed, 2014). The concerns are classified into four categories. They are insignificant concerns; personal concerns; task-related concerns; and impact-related concerns.

Insignificant Concerns/Unrelated Concerns: At the initial stages, teachers do not perceive a relationship between themselves and the suggested changes. For example, if a new programme is being developed, a teacher at this stage may or may not be aware of this effort. If he/she is aware of it, he/she may not consider it something that concerns him/her. The teacher would not resist the change, because he/she really does not perceive the change as something that influences his/her own personal or professional domain (Coch & French, 1948).

Personal Concerns: These are teachers' reactions to the new programme for example, of teaching practical skills using strategies which help learners acquire practical skills, in relation to their personal situations. Their assumptions and perspectives about the new programme and how it will affect them becomes a major concern to them. They are concerned with how the new programme compares for this case to the traditional way of teaching learners (Coch & French, 1948).

Task-related Concerns: These are concerns which are associated with for example, the actual teaching of practical skill subjects within the ongoing school curriculum. The teacher at this stage is anxious about the time required, availability of materials, and strategies to be adopted for teaching the practical skill subjects (Coch & French, 1948).

Impact-related Concerns: Are associated with the teacher's anxiety about how the new program is going to influence others. When working with the ORC model, we must deal directly with the concerns at stages 2, 3 and 4 in order to serve the purpose for which the change is affected. To get the desired result the teachers should be motivated rather than just imposing new ideas to them (Coch & French, 1948).

Teachers are key players in the curriculum development process. Consequently, to effectively implement the new programme there is need initiators of curriculum changes to gather stakeholder concerns through surveys and schools' web sites to map out strategies for dealing with such concerns. For example they may need to share teachers' concerns and provide them with continuous support. If this is ignored they will not accept the new programme. It is also important that teachers share their concerns among themselves too. By so doing, they may realize that they are capable of making the necessary changes in order to implement the new programme in question (Coch & French, 1948), in this case the implementation of practical skills for the realization of Vision 2025.

Strengths of the Theory

Overcoming Resistance to Change (ORC) can help curriculum developers to think about better methods of implementing practical skills among secondary school learners. Also Overcoming Resistance to Change can prevent good ideas being implemented badly and vice visa.

Weaknesses of the Theory

According to the theory of Overcoming Resistance to Change in implementing a curriculum, it is difficult to overcome resistance completely because you cannot meet all the teachers needs or concerns and so teachers may implement the curriculum less effectively if they have intrinsic concerns.

Application of the Theory

The researcher was commissioned to assess the implementation of practical skills in the secondary school curriculum for the realization of Vision 2025. One of the objectives of Vision 2025 is to develop secondary school learners with practical skills so that they can be effective in the job market and at the same time be able to employ themselves. Thus the researcher assessed this using ORC model. The researcher assessed whether teachers had concerns or challenges about themselves in implementing the recommended strategies for developing practical skills among learners. The researcher assessed how the teaching and learning itself was conducted in secondary schools. Did it suffice the implementation of practical skills or not? What were the personal concerns of teachers or challenges? This was addressed in the findings of this study.

Looking at the task related concerns, were the teachers contended with the relevant resources such as teaching and learning materials, syllabuses and secondary school curriculum on how they fitted in promoting practical skills among learners. Again what impact did the teaching of practical skills among learners have in terms of providing skills for employment opportunities? This was also addressed in the findings of this study. The researcher too assessed the practical skills which the learners had learned, were learners able to demonstrate them or not? What concerns or challenges did learners have in the process of acquiring these practical skills? This too was addressed in the findings of this study. In this regard the theory guided the study to investigate whether there were concerns or challenges among teachers and learners which could hinder effective implementation of practical skills.

Literature Review

In a policy climate where various actors claimed to have solutions for enduring challenges of teacher education, policy deliberations sideline certain voices and omit important perspectives and issues overlooked by teacher education policy debates dominated by market logic and accountability pressures (Aydarova & Berliner, 2018). Teaching was perceived negatively by young people because of low salaries in comparison to other professions like law and medicine, (Mosha, 2016). In addition teachers were not respected in the society as before (Mosha, 2016). Teachers complain about poor teaching and learning, poor learning environment, shortage of resources, and large class sizes did not attract young people to the profession (Mosha, 2016).

In the same vein, Bosser *et al.* (2015) conducted a study in Sweden and contented that teachers might face considerable challenges when implementing socio-scientific issues (SSI) in their classroom practices such as incorporating learner–centred teaching practices and exploring knowledge and values in the context of socio-scientific issues (Bosser *et al.*, 2015). The study explored teachers' reflections on the process of developing their classroom practices when implementing SSI. Video recorded discussions between two upper secondary science

teachers and an educational researcher, grounded in the teachers' reflections on their classroom practices provided data for the analysis (Bosser *et al.,* 2015).

The researchers used Focus Group Discussions (FGD) and observation of teachers in the classrooms. Data were collected in the form of audio- and video–recordings of lessons or parts of lessons which focused both on the teachers and learners' actions in the classrooms (Bosser *et al.,* 2015). Notes regarding perceived problems were made by teachers after lessons and video recordings of the discussion between teachers and their mentor (Bosser *et al.,* 2015).

The results showed that during the cause of implementation the teachers enhanced their awareness of the importance of promoting learners' participation and supporting their independence as learners (Bosser *et al.,* 2015). The results suggested a conflict between the enactment of a learner's centred classroom practice and the achievement of intended learning goals. The researchers did not suggest a solution to the conflict they identified in their study neither did they suggest what teachers would build. The study recommended that in order to accept the challenge of implementing SSI in the classroom, it was suggested that it was essential for teachers to build strategies, which integrated dialogue about learning goals, which helped to explore both content knowledge and values in the context of SSI (Bosser *et al.,* 2015). Also learners' exploration of knowledge and values in the context of SSI in the learner–centred classroom opened up a range of possible outcomes which could not be fully directed or pre-determined by the teacher (Bosser *et al.,* 2015). However, the sample of two teachers and one educational researcher was small to give sound perceptions and be representative. The researchers too did not suggest the strategies which teachers could build in order to integrate dialogue about the learning goals. The current study investigated the strategies which teachers used in the implementation of practical skills for the realization of Vision 2025.

Similary, Mungoo and Moorad (2015) conducted a study which used multiple methods to examine the implementation of learner-centred pedagogies in Junior Secondary Schools (JSSs) in Botswana (Mungoo & Moorad, 2015). The study contributed to the ongoing discourse on pedagogical practices in developing contexts. The argument was that large mixed ability classes, learner-centred pedagogy was not only faced with a myriad of challenges, but failed to carter for the range of learners (Mungoo & Moorad, 2015). Additionally, the previous study provided a review of constructivist approaches and proposed pedagogical flexibility based on the type of learners (Mungoo & Moorad, 2015). The findings of the study showed that to maximize learning in mixed ability classes, teachers needed to employ an array of instructional strategies (Mungoo & Moorad, 2015). These researchers did not suggest any single strategy to alleviate the challenges neither did they suggest how teachers could be flexible with the pedagogy to maximize effective learning. The current study however investigated the strategies used by secondary school teachers and the challenges they faced in the implementation of practical skills for the realization of Vision 2025.

Moreover, Machingambi (2017) conducted a study and investigated the perceptions on the implementation of the performance management system in one cluster of high schools in Zimbabwe. Forty senior teachers were purposely selected to participate in the study. A case study design that combined both quantitative and qualitative methods was used in the study, (Machingambi, 2017). The study found that teachers were not adequately prepared to implement the performed management system due to interplay of factors such as poor articulation of the system, lack of training, shortage of resources in schools, absence of professional development in schools as well as insufficient funding (Machingambi, 2017). Machingambi (2017) recommended that revitalization of training support for schools as well as the improvement of communication systems among stakeholders within the education system could help enhance the effectiveness of the system (Machingambi, 2017).

The study found that teachers were not adequately prepared to implement the performed management system due to interplay of factors such as poor articulation of the system, lack of

training, shortage of resources in schools, absence of professional development and insufficient funding. Machingambi (2017) did not exhaust suggestions of ways of solving the identified challenges. This study explored other challenges and possible solutions which faced teachers and learners in implementing practical skills for the realization of Vision 2025.

Additionally, Tshabangu and Msafiri (2013) conducted a study and explored notions of quality in education and the challenges facing Tanzania. A humanistic approach was used to determine levels of quality education in schools, thus respondents recorded their perceptions on key issues on quality education relevant to Tanzania (Tshabangu & Msafiri, 2013). Mixed approach with non-probability sampling was used and 20 schools were selected with 200 participants. The researchers did not specify what was involved in mixed approach neither did they specify who were involved in the non-probability sampling. The researchers too did not explain the sampling procedures for choosing the participants and for selecting the schools involved in the study. Written accounts, qualitative and preliminary quantitative questionnaires were used before further exploration of the phenomenon (Tshabangu & Msafiri, 2013). The participants involved learners, teachers, and heads of schools, education officers from both urban and rural schools of Northern Tanzania but the researchers did not explain how they sampled the participants. Discussions helped to capture challenges faced by schools in their quest for quality education (Tshabangu & Msafiri, 2013).

Despite Tanzania's commendable efforts in increased funding on education in recent years ahead of its East African neighbours, this investment has not gone far enough to meet citizen's expectations and satisfactions on quality education, possibly due to widespread neglect in previous years (Tshabangu, 2013). The present researcher does not agree on this because Tanzania had never neglected funding education for example she had been doing so through different programmes such as PEDP and SEDP which have seen tremendous developments in education both in quantity and quality (SEDP I & 11, Final Draft, 2010). Also MoEVT (2011) states that "Tanzania should be a nation with high level of education at all levels; a nation which produces the quality and quantity of educated people sufficiently equipped with the requisite knowledge to solve the society's problems in order to meet the challenges of development and attain competitiveness at regional and global levels".

The study established the following challenges in the education system: widespread lack of sufficient manpower and infrastructure; poor policy implementation, lack of political will to engage stakeholders in a purposeful trustworthy environment thereby threatening healthy links between education and other national socio-economic goals (Tshabangu, 2013). The challenge remained of raising the quality standards in education while sustaining access for all. The researcher did not suggest solutions to the challenges identified. Also one is not certain whether with the identified challenges, secondary school teachers would be effective in the implementation of practical skills among secondary school learners. The present study therefore investigated challenges teachers and learners faced in the implementation of practical skills for the realization of Vision 2025 in Kilimanjaro Region.

Generally, Siril *et al.* (2013) conducted a study in Dar es Salaam, Tanzania on challenges towards realization of health care goals of Vision 2025 at Muhimbili University. Their study revealed some of the challenges education institutions face in the implementation of practical skills for the realization of Vision 2025. The challenges identified in the study included lack of funds to run institutions, limited infrastructures for teaching, budget constraints, awareness of Vision 2025 was still a challenge and lack of academic staff for the implementation of practical skills for the realization of Vision 2025. The study identified a number of challenges hindering the implementation of practical skills for the realization of Vision 2025, but the researchers did not suggest possible solutions to the challenges identified. Also it is not certain whether secondary school teachers could teach the practical skills effectively among secondary school learners with the existing challenges. The current study however identified possible solutions

to challenges faced by secondary school teachers and learners in the implementation of practical skills for the realization of Vision 2025 in the secondary schools in Kilimanjaro Region.

Research Gap

Few research studies were reviewed from different parts of the world on challenges faced by teachers and learners and possible solutions on the implementation of practical skills among learners such as Bosser *et al.* (2015) Sweden; Mungoo and Moorad (2015) Botswana; Machingambi (2017) Zimbabwe; Tshabangu and Msafiri (2013) Tanzania; Siril *et al.* (2013) Tanzania. These studies examined challenges faced by teachers and possible solutions on the implementation of practical skills in general in different countries. Few studies have dealt with challenges faced by teachers in implementing practical skills among learners with particular reference to Vision 2025. No known research study has dealt with challenges faced by teachers on the implementation of practical skills among secondary school learners in Kilimanjaro Region, Tanzania. Also there is no proper documentation to see whether we are moving towards the attainment of Vision 2025 through secondary education. Therefore the researcher investigated challenges faced by teachers and learners on the implementation of practical skills for the realization of Vision 2025, among secondary school learners in Kilimanjaro Region, Tanzania.

Research Design and Methodology

This study used Convergent Mixed Methods Design (Creswe & Creswell, 2018) which is a concurrent design where Qualitative and Quantitative data sets are collected together in a single phase and then analysed. The findings are merged and interpreted to compare quantitative and qualitative data to see whether they conform or not. Mixed research methods provide richer insights into phenomena of interest that cannot be fully understood using only quantitative or qualitative methods (Johnson *et al*., 2007). The researcher used this design in order to build on the strengths of both quantitative and qualitative data and produce enough information for extending and elaborating the problem of the study (Creswell & Clark, 2018).

Quantitative data were collected through questionnaires and document analysis schedule and then were coded, entered into the computer and analysed using SPSS version 23 into descriptive and inferential statistics. Descriptive data such as mean, mode and median were analysed into frequencies and percentages and then presented into tables and graphs. Inferential statistics such as Regression were analysed into Mean and SD and used for testing hypothesis. The qualitative information was coded into themes, descriptively analysed and major summaries were reported together with some direct quotations and narrations. Then the researcher combined the two data by form of integration.

The target population was 5278 people including DEOs, secondary school teachers, heads of schools, academic masters, and Form four learners of all government and private ordinary level secondary schools in the 3 District councils in Kilimanjaro region. Then the researcher sampled 11government and private ordinary level secondary schools from the 3 sampled District Councils so as to obtain a representative sample for the whole population. A representative sample of 3 DEOs, 11 heads of schools, 11 academic officers, 110 secondary school teachers, and 396 Form four learners totalling to 531 participants were used in collecting data.

Results and Discussion

In question one, the researcher sought to find out the challenges facing teachers and learners in implementing practical skills in their schools. The information was collected from teachers, heads of schools and DEOs. In realizing this objective, open-ended items for heads

of schools and DEOs and Likert scale items for teachers were formulated to identify what those challenges were in place against the achievements of practical skills for the realization of Vision 2025. Therefore, information was sought from teachers, heads of schools and DEOs who each stated the challenges of implementing practical skills for the realization of Vision 2025 in their schools. The researcher asked teachers to state the challenges they were facing in implementing practical skills among secondary school learners and the responses are summarized in Table 1.

Table 1. Challenges faced by secondary school teachers in the sample in implementing practical skills for the realization of Vision 2025 (n=110)

	Strongly disagree		**Disagree**		**Undecided**		**Agree**		**Strongly agree**		**Descriptive statistics**	
Challenges	f	%	f	%	f	%	f	%	F	%	Mean	Standard deviation
In adequate qualified secondary education teachers	12	10.9	19	17.3	8	7.3	40	36.4	31	28.2	3.47	1.444
Poor infrastructure	6	5.5	12	10.9	11	10.0	49	44.5	32	29.1	3.75	1.243
Poor government monitoring of schools	3	2.7	6	5.5	16	14.5	25	22.7	60	54.5	4.18	1.127
In adequate T/L resources	10	9.2	12	11.0	13	11.9	49	45.0	25	22.9	3.60	1.248
Difficult in preparing practical activities	4	3.7	4	3.7	7	6.5	47	43.9	45	42.1	4.17	0.976
Scarcity of land area for farming	6	5.5	5	4.5	18	16.4	53	48.2	28	25.5	3.85	1.015
Overcrowded classrooms	5	4.5	12	10.9	29	26.4	30	27.3	34	30.9	3.63	1.270
Skills gap for secondary school learners	1	1.0	6	5.8	30	28.8	10	9.6	57	54.8	4.07	1.185
High cost of buying practical equipment	11	10.3	1	0.9	10	9.3	51	47.7	34	31.8	3.99	0.957
Declining academic performance of secondary school learners	2	1.9	5	4.7	20	18.9	47	44.3	32	30.2	3.93	0.998
Graduate fail to demonstrate practical skills required	10	9.2	12	11.0	13	11.9	32	29.4	42	38.5	3.75	1.348
Vision 2025 is not being reviewed every five years as planned in 2000	6	5.6	10	9.3	10	9.3	33	30.6	49	45.4	3.97	1.271
Other challenges	3	2.7	29	26.4	20	18.2	30	27.3	28	25.5	3.23	1.136

Source: Field data, 2020

The major challenges identified in Table 1 are, difficulty in preparing practical activities, 86 percent of teachers agree and strongly agreed (M=4.17) and 54.5 percent (M=4.18; SD=1.127) of teachers strongly agreed that there was poor government monitoring of secondary schools and Vision 2025 not being reviewed (M=3.97). Teachers found it difficulty in preparing practical skill activities because some teachers had no practical skill training especially in the agriculture subject and also inadequate resources. These findings too correspond to the findings of Tibasima, (2017) which revealed that there was poor government monitoring in secondary schools, this could affect the implementation of practical skills for the

realization of Vision 2025. The findings too correspond to Siril *et al.* (2013) who found that absence of Vision 2025 in institutions was a challenge in implementing practical skills among learners.

Also 54.8 percent (M=4.07; SD=1.185) strongly agreed that there was a skills gap for secondary school learners with widely spread responses. This concurs with Tshabangu and Msafiri (2013) who identified in their study that there was poor policy implementation and lack of political will to engage stakeholders in a purposeful trust worthy environment thereby threatening healthy links between education and other national socio-economic goals like this one of implementing practical skills among secondary school learners. Teachers strongly agreed that there were inadequate qualified secondary school teachers, for example in agriculture. The schools practicing farming did not have agriculture trained teachers except in two schools. This concurs with the study of Diise *et al*. (2018) who found that the agriculture subject in Awe Senior High School in the Upper East Region, Ghana lacked skilled farm labourers who could help teach learners agriculture skills. Olofin and Imakwu (2016) commented that majority of people in developing countries are not computer literate and this causes also inadequate computer literate teachers as it was found in the sampled schools. For example the building construction teacher said that:

> *In this school for three years there were inadequate teachers in this subject and so not much practical were being done. But the government has now brought new syllabus and new teachers for practical subjects which started last year for Form one and Form two learners. The school too has few computers and inadequate computer teachers.*

Also the home economics teacher said that:

> *Since the fee free education policy, when a teacher retires or goes for further studies is not replaced and so teachers become inadequate.*

This corresponds to the findings of Mosha (2016), Siril *et al.* (2013) respectively who commended that schools have inadequate qualified teachers and few resources, therefore continuing professional development suggested by Machingambi (2017) ought to be instituted from time to time to help inadequate qualified teachers to be competent. The government has made efforts to produce qualified teachers by giving university student teachers full loans so that many can join the teaching profession but unfortunately they have not been employed because of financial constraints.

Teachers too agreed that there were inadequate teaching and learning resources 45.0 percent (M=3.60; SD=1.248) for example in the computer subject, learners were sharing the computers. Schools too do not have enough computer trained teachers. Learners were sharing computers because they are inadequate due to lack of enough capital. This concurs with the study done by Olofin and Imakwu (2016) who found that ICT was faced with lack of capital to buy equipment such as computers and lack of adequate skilled workers in computer literacy. Tibasima (2017) also commended that secondary schools have inadequate computer instructors. Promoting learners digital skills is one of the key competences in a school curriculum (Sancho *et al.*, 2016). Therefore schools should ensure availability of computers in their schools.

There were out of date equipment in the building construction class and in some schools, land for agriculture was inadequate especially in urban secondary schools. For home economics class there were inadequate teaching and learning resources especially materials for practical classes. This concurs with the study of Okoro (2013) on challenges in practical work in Home economics in South Africa, who commended that inadequate teaching and learning resources was a serious challenge facing the teaching and learning of practical home economics. Also studies done by Gamawa (2015) and Olayinka (2016) revealed that shorted of adequate equipment of practical lessons in teaching and learning home economics was a major challenge. The researcher also found that learners were concerned about shortage of home

economics teachers and inability of teachers to improvise instructional materials. This concurs with the findings of this study which revealed that there are shortages of home economics teachers because teachers who have retired and those who go for further studies are not replaced immediately.

Teachers strongly agreed that there were overcrowded classrooms 30.9 percent (M=3.63; SD=1.27) concurring with Mosha (2016) and Tibasima (2017) who found out that teachers complain about poor teaching and learning environment, shortage of resources and large class sizes which do not attract young people to the profession. The needlework class observed in the current study was small and so the teacher hired a bigger class when teaching theory and during practical period the learners were divided into two. This concurs with Mungoo and Moorad (2015) who found that in large mixed ability classes practical teaching failed to carter for the range of learners. Siril *et al.* (2013) also commended that institutions had limited infrastructures for teaching.

Other challenges with response of strongly agree included scarcity of land for farming, this was mainly for schools in the urban areas and graduates failing to demonstrate practical skills required. Graduate failing to demonstrate practical skills required has been mainly observed by some employers. These challenges together could slow down the progress of implementing practical skills for the realization of Vision 2025 especially if there were inadequate qualified teachers to teach learners the suggested practical skills (Tibasima, 2017; Mosha, 2016; Makunja, 2016).

In addition, if teachers were there but there were inadequate teaching and learning resources, the teachers could not do much, this corresponds to the third stage of the theory of Overcoming Resistance to Change (ORC). In the same vein, if the classes were overcrowded, the teachers would fail to demonstrate strategies which need space and are vital in enhancing the practical skills for the realization of Vision 2025 (Mungoo & Moorad, 2015) and (Tibasima, 2017). Scarcity of land was observed by the researcher mainly in the urban secondary schools where learners only had vegetable gardens instead but these schools could negotiate with the neighbouring communities to give them land for farming. As for graduates failing to demonstrate the skills might be due to low level of mastering the skills due to inadequate practical skill facilities (Table 1).

The responses from heads of schools showed that there were not enough or inadequate refresher courses planned for teachers, concurring with Machingambi (2017) who commented that lack of training of teachers, shortage of resources and absence of professional development courses for teachers in schools were problems hindering implementation of practical skills among secondary school learners. This is also in line with Makunja (2016) study which revealed that secondary school teachers lacked in service training. This implied that refresher courses were important in that teachers had to be trained new education changes and new strategies of teaching practical subjects for the implementation of practical skills among secondary school learners.

Also heads of schools reported that there are inadequacies of practical skills facilities, lack of funds, poor government support for buying practical equipment and that field study as a subject was not inserted in the syllabus for realization of Vision 2025. These findings are in line with the findings of Tibasima (2017) which revealed that government secondary schools have shortages of funds to buy practical skill facilities and also is in line with Diise *et al.* (2018) who found out that the teaching of agriculture practical skills in Awe senior high school in Ghana was faced with insufficient funding for practical skill facilities.

This implied that all these challenges together could slow down the pace of realizing Vision 2025 contrary to what it was expected in 2000. These findings also concur with the findings of Machingambi (2017), Siril *et al.* (2013) Gamawa (2015), who observed that schools had insufficient funding. The researcher too collected data on challenges from the documentary

analysis schedule, observation schedule and DEOs interviews and the responses are summarized below.

Challenges Gathered from the Documentary Analysis Schedule, Observational Schedule and DEOs' Interviews

Observation from the documentary analysis schedule, the academic masters remarked that,

> *Some schools suffer from lack of sufficient resources like laboratories, inadequate teachers particularly those who teach building construction and home economics. In the case ICT facilities such as computers, laptops are very few, five learners share one computer in my school because of insufficient capital.*

This is in line with Olofin and Imakwu (2016) who commented that financial capital is highly needed to be able to adapt, develop and utilize ICT in its fullest capacity.

One academic master remarked that:

> *Vision 2025 document as a reference document in the implementation process was lacking and this caused less understanding of secondary school teachers in implementing practical skills among learners.*

This concurs with one head of school who commented that he had only read about Vision 2025 in the internet but had not seen it any other place.

These findings also concur with the findings of (Tibasima, 2017; Mosha, 2016; Makunja, 2016) who commended that secondary schools had inadequate qualified teachers and also shortage of teaching and learning resources (Machingambi, 2017). So insufficient resources would slacken the teaching of practical skill activities. Also availability of Vision 2025 document in secondary schools is very important for teachers to read it in order to understand it well and follow what it says in teaching practical skills well.

Challenges from the observational schedule were that for optional subjects such as home economics (needlework, cookery, laundry) lacked support from parents in helping the school buy materials for practical and also shortages of teachers. This corresponds to the findings of Gamawa (2015) who commended that parents were discouraging their children from choosing home economics subject because parents were required to support their children.

As for construction and building, machines or equipment for brick work were out of date. Fine art and music faced shortages of teachers when one teacher for example retired or went for further studies. The government delayed to replace them and so learners missed these subjects for some time. So the government should make effort of replacing teachers who go for studies and those who retire so that learners don't miss their respective subjects. These findings are in line with the findings of (Tibasima, 2017; Mosha, 2016; Makunja, 2016) who commended that secondary schools had inadequate qualified teachers.

Also DEOs reported challenges that face learners in the implementation of practical skills for the realization of Vision 2025. These challenges included,

> *Inadequate supply of electricity, that is some secondary schools especially those in the rural areas had the problem of power cuts. Some urban schools too had lack of agricultural areas and insufficient supply of practical skills facilities. Also some schools they said have inadequate qualified teachers in agriculture and ICT and schools too lack practical skill facilities such as computers and building equipment.*

These findings are in line with Siril *et al*. (2013) who identified lack of funds in institutions could cause insufficient supply of practical skill facilities. Again here, TANESCO should be advised by the government to supply constant electricity to secondary schools and for schools without agriculture land, should negotiate with the community to get some land. The findings of challenges explained by DEOs are similar challenges, to those which were reported by heads of schools, teachers and academic masters of the sampled schools

(triangulation) implying that all these stake holders cooperate with each other in the implementation of practical skills among learners for the realization of Vision 2025 in their respective schools.

Possible Solutions to the Challenges Faced by Secondary School Teachers in the Sample in Implementing Practical Skills for the Realization of Vision 2025

In the second research question, the researcher intended to explore the possible solutions to the challenges of implementing practical skills for the realization of Vision 2025 among ordinary secondary school learners. To achieve this, the researcher administered questionnaires to heads of schools and teachers. The researcher asked heads of schools to suggest possible solutions to the challenges faced by teachers in implementing practical skills among secondary school learners and the summary of the responses is presented in Table 2.

Table 2. Solutions to the challenges suggested by heads of schools

	Heads of schools	
Possible solutions	**F**	**%**
Education planners should plan regular refresher courses for teachers	10	90.9
Technology application like computers	6	54.5
Improvement of teaching and learning environment	3	27.7
Proper use of funds	3	27.7
Good standard of payment to teachers	2	18.2
Leaders commitment	3	27.3
The syllabus should state clearly the field study	2	18.2
Provision of Land for agriculture	6	54.5
Fund allocation for school facilities	2	18.2
Provision of teaching and learning materials/equipment	3	27.3
Equal treatment of private and government secondary schools	5	45.5
Science subjects have to be taught with real practical's	8	72.7

Source: Field data, 2020

From Table 2 results show that 90.9 percent of heads of schools suggested that education planners should plan regular refresher courses for teachers to create awareness and readiness and build practical skill abilities for teaching especially in the subjects of agriculture, computer, book keeping and commerce. This was also suggested by Machingambi (2017) who found that teachers in Zimbabwe were not adequately prepared to implement the performed management system due to poor articulation system, lack of training, shortage of resources in schools, absence of professional development and insufficient funding and so teachers needed refresher courses. Also Odo *et al.* (2017) had a similar suggestion that the government of Nigeria should put efforts to train and produce technical skilled manpower for the achievement of the nation.

This solution would soften the implementation of practical skills for the realization of Vision 2025. Also 18.2 percent of heads of schools suggested that the government and private school owners should plan in the school budget, funds for supplying enough facilities for practical skills especially in the focused subjects such as agriculture, carpentry, and computer and building construction. This is so because, teachers were complaining to them that the funds for buying practical skill facilities were not enough for example computers and building equipment. This too is in line with what Machingambi (2017) asserted. Again 18.2 percent of Heads of schools suggested that the syllabus should state clearly what practical skills in each field of study were needed. The participants too suggested inclusion of field study subject in the syllabus, that is learners taking for example home economics, can visit hotels to see how the hotels are managed or they can visit a small tailoring factory. For learners taking building

construction they can visit building sites. The heads of schools also said that field trips are important for learners because it helps them explore the environment and learn many geographical facts which can help them live better. For example observing real soil erosion features and learn their prevention methods, the learners get the skill of problem solving. This is why they suggested it to be included in the syllabus.

These solutions are all very viable for example refresher courses enrich skills of teachers in teaching practical skills. If the government increases funds to secondary schools, the funds would help provide enough practical skills facilities such as ICT facilities for teaching learners practical skills effectively.

Practical sessions in the science subjects were lacking and not included in the curriculum of which led many (72.7%, n=10) heads of schools to recommend that school learning should be more practical oriented in science subjects to merge the theories which is very important.

For example one head of school said that:

Teaching and learning at secondary schools is more of theories, this leads learners less likely to acquire practical skills. Hence, I suggest the government and private owners to emphasize more practical learning so as to merge theories for the acquisition of effective practical skills towards realizing Vision 2025.

This is in line with Education for Self-Reliance Nyerere (1967) which calls for learners to integrate theory and practice. The other nine heads of schools too supported this idea as is seen in Table 2. This was certainly true that, if all ordinary secondary schools would get involved in emphasizing practical skill teaching in subjects such as agriculture, home economics, building construction, computer literacy, it would help increase practical skills' acquisition towards the realization of Vision 2025 and learners would acquire employability skills too.

In addition, DEOs through the interview guide, suggested possible solutions against the challenges identified. One DEO suggested the following solutions:

Proper supply of electricity, ensuring availability of resources, refreshers' trainings and seminars such as those facilitated by MWECAU during Teaching In Action (TIA), creativity and hard work for both teachers and learners, TVs for projecting lessons to learners and schools which don't have play grounds and land for agriculture. TANESCO should be advised by the government to supply constant electricity to secondary schools and for schools without agriculture land should negotiate with the community to get some land and all schools without playgrounds must ensure to have playgrounds for sports and games.

These suggestions correspond to Machingambi (2017) and Mfaume (2019) who suggested that teachers needed refresher courses. These solutions are viable and important because proper supply of electricity, availability of resources, refreshers trainings, provision of land for play grounds and farming enhance the development of practical skills among secondary school learners. Also another DEO commented that:

The government should motivate teachers by improving teachers' salaries, allowances and promotions. A teacher can work for ten years without being given an increment and promotions and that makes them to be stressed. There should also be provision of food in secondary schools for all learners, these solutions will help both teachers and learners in the implementation of practical skills.

The third DEO commented that:

There should be improvement of housing for teachers, improvement of social services such as electricity, water, security, infrastructure conducive school environment, entrepreneurship education to be included in the curriculum, practical skills such as farming, keeping animals should be added to the curriculum. Also the government to separate the role of teachers and the influence of politicians in the context of Vision 2025.

These solutions are viable and important because good salaries for teachers, allowances and promotions will motivate them to teach well the practical skills among learners for the realization of Vision 2025.Additionally provision of social services such as electricity, water, housing, conducive teaching and learning environment will make teachers like their teaching profession and hence they will teach well the practical skills among learners. This too will make teachers stay long at their teaching stations which will provide continuity of practical skills taught to the learners.

In the same vein, the researcher was interested in getting possible solutions to the challenges faced by secondary school teachers in implementing practical skills in the secondary school curriculum for the realization of Vision 2025. The summary of secondary school teachers' responses is presented in Table 3.

Table 3. Solutions to the challenges suggested by secondary school teachers

	Teachers	
Possible solutions	**f**	**%**
Education planners should plan regular refresher courses for teachers	22	20.0
Technology application like computers	12	10.9
Improvement of teaching and learning environment	47	42.7
Proper use of funds	2	1.8
Good standard of payment to teachers	10	9.1
Leaders commitment	17	15.5
The syllabus should state clearly the field study	10	9.1
Provision of Land for agriculture	30	27.2
Fund allocation for school facilities	11	10
Provision of teaching and learning materials/equipment	51	46.3
Equal treatment of private and government secondary schools	20	18.2
Science subjects have to be taught with real practical's	9	8.2

Source: Field data, 2020

Majority teachers 46.3 percent in Table 3 suggested that secondary schools should provide teaching and learning materials and equipment for practical skill activities in subjects such as carpentry, computer and building construction and also improve the teaching and learning environment 42.7 percent. This concurs with Mosha (2016), who comments that secondary schools have shortages of teaching and learning resources. Teachers, 27.2 percent suggested schools to provide land for agriculture subject and especially schools in urban areas. This is important for all schools to have land for agriculture so that all learners learn agriculture because it is the back bone of Tanzania's economy.

Again 20.0 percent of teachers suggested that education planners should plan regular refresher courses for teachers. This too concurs with Machingambi (2017), who recommended that schools need refresher courses because they lack professional development which helps teachers to get chance of being trained new skills of teaching such learning how to teach practical skills. Teachers 18.2 percent suggested that there should be equal treatment of government and private secondary schools in allocation of funds for implementation of practical skills so that all learners too get equal opportunities of being taught the practical skills equally.

Another 10.9 percent of teachers suggested that the government and private school owners should provide enough ICT facilities such as computers for teaching and learning process at ordinary secondary schools. This is in line with Mfaume (2019) who commented that ICT is a strategy to be promoted because it enhances quality education of practical skills for the realization of Vision 2025. The results too showed that there was a possibility of

alleviating the challenges against Vision 2025 if schools would integrate ICT well in teaching and learning process. This is because ICT accelerates interaction and collaboration in teaching and learning (Mfaume, 2019).

Teachers commended that there should be proper use of the funds which are provided for practical skill facilities (Machingambi, 2017) to secondary schools. If funds are not used properly, practical skill facilities will not be enough for learners to acquire the necessary practical skills which will help them be employed or employ themselves. This concurs to the findings of Ngwenya and Shange (2019) who found that lack of funds to support facilities for practical caused South Africa to suffer from persistent youth unemployment due to shortages of necessary skills in the society (Ngwenya & Shange, 2019).

Teachers too suggested good standard of payment to teachers so that they can be motivated to teach the practical skills better. One teacher complained bitterly saying:

> *Several years have now passed without getting promotions nor increments! I am really frustrated, I am nearing my retiring age and life itself is a problem and so I cannot stop teaching.*

This corresponds to the theory which guides the study (ORC) in stage two which deals with personal concerns of teachers like this one of not getting standard payment which the teacher can in turn not do well in teaching learners practical skills for the realization of Vision 2025 if they are not contented with their salaries.

Additionally, teachers commended that education stake holders should be committed in helping practical skill implementation in secondary schools by providing support of practical skill facilities. Solutions gathered from the observational schedule were that teachers suggested that the government should replace retired teachers immediately. Teachers who go to study should be replaced immediately. Learners who show creative work like those who made electrical models in the observed school should be supported financially by the government in order to make real objects. Learners showed concern on the inadequacy of brick work machines and that even the available equipment was out of date, therefore the government should provide enough funds for these practical skill facilities so that learners don't miss classes and are not discouraged in studying this subject.

Findings and Conclusions

This research paper dealt with challenges faced by secondary school teachers and learners and possible solutions in implementing practical skills for the realization on Vision 2025.Major challenges found in the study included difficulty of preparing practical skill activities; inadequate qualified secondary school teachers, inadequate practical skill facilities; inadequate funds and land for agriculture especially in urban secondary schools. Possible solutions suggested by teachers and DEOs included Education planners to plan refresher courses for secondary school teachers and plan enough budgets for practical skill facilities and secondary schools to ensure adequate land for agriculture by negotiating with the local community. DEOs also suggested that teachers should be motivated by being provided with better social services such as good salary by the government.

Teachers and learners face many challenges in the implementation of practical skills curriculum. However they have suggested plausible solutions for effective implementation of the same with regard to the realization of Vision 2025.This implied that if these solutions were effectively implemented they would accelerate the acquisition of practical skills among ordinary level secondary school learners for the realization of Vision 2025. This would in turn lead to Vision 2025 to be a reality and not a myth.

Recommendations based on Conclusions

Basing on the conclusions, the researcher recommends that all stake holders in education, Education Officers, DEOs and Secondary School Teachers should cooperate together in minimizing the challenges by effectively implementing the suggested solutions in order that Vision 2025 could be realized. Parents to support their children who want to do practical subjects; Teacher Education Institutions, Colleges and Universities should develop programmes for training teachers to implement practical skills in Secondary Schools; Government to provide more resources to schools for implementing practical skill subjects; Government to provide good standard of payment to teachers in order to motivate them to teach the practical skill subjects. The local community to provide land for Agriculture. Also practical skill subjects focused in this study such as agriculture, home economics, computer and building construction could be made compulsory for all secondary school learners in Tanzania to benefit from them.

Recommendations for Further Studies

A further study could be done on challenges facing learners on implementing practical skill activities for the realization of Vision 2025 in another Region of Tanzania.

Abbreviations and Acronyms

ESR – Education for Self Reliance
ETP – Education Training Policy
MoEST – Ministry of Education, Science and Technology
MoEVT – Ministry of Education and Vocational Training
ORC – Overcoming Resistance to Change
SEDP – Secondary Education Development Programme
STEM – Science, Technology, Engineering, Mathematics
TANESCO – Tanzania National Electrical Supply Company
TIE – Tanzania Institute of Education

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