Review of Empirical Studies on Assessment of Implementation of Practical Skills in the Secondary School Curriculum for the Realization of Vision 2025 among 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 through strategies which ensure attainment of a level of tertiary education ,hard work and creativity through implementation of practical skills among learners. Empirical studies related to the implementation of practical skills for the realization of Vision 2025 among Secondary School learners have not been documented in Kilimanjaro Region.

Keywords: implementation, practical skills, strategies, perceptions, challenges, literature review, vision.

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ABSTRACT

Vision 2025 recommends that education should lead to high quality livelihood for all Tanzanians through strategies which ensure attainment of a level of tertiary education ,hard work and creativity through implementation of practical skills among learners. Empirical studies related to the implementation of practical skills for the realization of Vision 2025 among Secondary School learners have not been documented in Kilimanjaro Region. Thus the aim of this study was to document the current study and to review empirical studies related to the implementation of practical skills among secondary school learners in general .This paper addresses four themes of literature review in implementation of practical skills among secondary school learners: Strategies used by Secondary School teachers in the implementation of Practical Skills among secondary school learners;Perception of teachers towards implementation of practical skills among secondary school learners; Challenges faced by teachers and learners in the implementation of practical skills for the realization of Vision 2025 and possible solutions; Summary of literature review and identification of the research gap, summary of main findings ,conclusions and recommendations. This study used convergent mixed research methods.. The sample population was 531 people including 3 DEOs, 110 Secondary School teachers,11heads of schools, 11academic masters and 396 Form four learners of government and private secondary schools of three district councils. Probability and non probability sampling were used. Data were collected through questionnaires, interview guide, document analysis schedule and observation schedule. The findings revealed strategies of assigning learners practical skill activities; developing practical skill projects; positive perception of teachers and learners towards practical skills; an interlink between practical skills and employment opportunities ;challenges included difficulty of teachers in preparing practical skill activities, inadequate qualified teachers; inadequate practical skill facilities; and solutions to the challenges included Education Planners to plan refresher courses for secondary school teachers. In conclusion this implied that Vision 2025 could be realized through secondary school education by learners acquiring practical skills which help improve their livelihood. Recommendations include practical skill subjects such as agriculture and building construction to be introduced to all secondary schools.

Keywords: implementation, practical skills, strategies, perceptions, challenges, literature review, vision.

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I. 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. 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). This study focused on the following practical skill subjects, agriculture, home economics, building construction, carpentry, computer studies, book keeping and commerce, fine art and music. These subjects are taught in some schools as optional and in other schools as core subjects. The question is that what are the teaching strategies used by secondary school teachers? What are the perceptions of teachers and learners on implementation of practical skills for the realization of Vision 2025 for the focused subjects? What are the challenges faced by teachers in implementing these practical skill subjects and their possible solutions? These questions were 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, and practical skill activities such as farming, building houses, masonry, and carpentry. 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 practical 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 teachers and learners perceptions on these developments? Are teachers eager to teach and receive the developments positively or not? What are the challenges faced by teachers and possible solutions in implementing practical skills among secondary school learners in Kilimanjaro Region? Do learners perceive that they are adequately prepared in practical skills for employment opportunities? These concerns are in line with the theory guiding the study Overcoming Resistance to Change (ORC). These concerns were addressed in the findings of this study.

II. 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 skill 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 so, it is

Review of Empirical Studies on Assessment of Implementation of Practical Skills in the Secondary School Curriculum for the Realization of Vision 2025 among Secondary School Learners in Kilimanjaro Region,Tanzania

14 Volume 22 | Issue 12 | Compilation 1.0 © 2022 London Journals Press

important to find out if secondary school teachers are actually teaching as recommended.

Few research studies have been done on strategies such as Chib and Wardoyo, (2018) Singapore; Rafai *et al.*(2014) Nigeria; Lupeja, (2017) Tanzania; on perceptions such as Oloyede &Sihlongonyane,(2010) Swaziland; Kinyaduka, (2014) Tanzania; on challenges and possible solutions such as Bosser *et al.*(2015) Sweden; Machingambi,(2017) Zimbabwe; Tshabangu and Msafiri (2013) Tanzania; Siril *et al.* (2013) Tanzania. These studies have examined strategies used by secondary school teachers ,their perceptions, challenges and possible solutions to the challenges towards implementing practical skills. However, few studies have been done with particular reference to Vision 2025. No known particular study has dealt with implementation of 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 the current study was to document the findings and to review empirical studies related to implementation of practical skills among learners for the realization of Vision 2025 in Kilimanjaro Region, Tanzania.

III.   THEMES OF LITERATURE REVIEW

The study was guided by the following themes of empirical studies.

- Strategies used by Secondary School teachers in the implementation of Practical Skills for the realization of Vision 2025;
- Perception of teachers towards implementation of practical skills for the realization of Vision 2025;
- Challenges faced by teachers and learners in the of implementation of practical skills for the realization of Vision 2025 and possible solutions;
- Summary of literature review and identification of the research gap

IV.   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.

V.   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.

The strength of the theory of Overcoming Resistance to Change (ORC) is that it 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. But 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. 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 implementing practical skills using ORC model to see whether teachers had concerns or challenges about themselves in implementing the recommended strategies for developing practical skills among learners .The researcher too 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 and the respective solutions? This was addressed in the findings of the current 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 the current 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? These concerns too were addressed in the findings of the current 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.

VI. LITERATURE REVIEW

Literature review is central to the research process because it provides a general understanding of the research problem as well as

Review of Empirical Studies on Assessment of Implementation of Practical Skills in the Secondary School Curriculum for the Realization of Vision 2025 among Secondary School Learners in Kilimanjaro Region,Tanzania

16   Volume 22 | Issue 12 | Compilation 1.0   © 2022 London Journals Press

serving as a benchmark against which the researcher can compare and contrast the research results. Reviewing related literature helps the researcher to limit the question of study, clarify and define the concepts of study (Ary *et al.*2010). Literature review also enables the researcher to make a critique of the findings of other researchers and establish a knowledge gap.

Strategies used by secondary school teachers in the implementation of practical skills for the realization of Vision 2025 Strategies in this study mean practical activities or methods used in the teaching and learning process such organizing discussions, integrating ICT with teaching, organizing practical tasks, developing projects for learners together with other activities which develop practical skills such as farming, making bricks, needlework and cookery.

Chib and Wardoyo (2018) did a study on 'Differential OER Impacts of Formal and in formal ICTs: Employability of Female Migrant Workers in Singapore. Their study focused on open and distance learning in the context of low income female migrant domestic workers as marginalized community. The researchers assessed specifically Informal OER (social media, mobile calling, texting, and formal OER resources, classroom prescribed learning tools and lectures) on specific development outcomes of functional literacy and perceived employability. A survey was conducted amongst female domestic workers 100(100%) who enrolled in the Indonesia Open University in Singapore. The results of the study were that access to OER via computers in the formal context of institutional learning, when combined with employability awareness, had a significant influence on the livelihood outcomes that is perceived employability (Chib & Wardoyo, 2018). But this did not lead to actual improvement in learning- functional literacy; instead actual learning improvement was influenced by digital skills enabled by mobile phones and computers (Chib & Wardoyo, 2018). The researchers concluded with a discussion on policy implications for digital skills training via mobile devices for marginalized population to bolster the positive effects of OER on livelihood outcomes. The researchers too commended that

Information and Communication Technologies aid employment opportunities (Chib & Wardoyo, 2018). But the researchers did not specify how digital training could be effected. The current study investigated digital literacy as one of the practical skills developed among secondary school learners in Kilimanjaro Region, Tanzania.

Furthermore, Odo *et al.* (2017) in their study on Technical Education- the key to sustainable Technological Development in Nigeria, commended that technical education has been identified as one of the most effective human resource development that needs to be embraced for rapid industrialization and sustainable technological development of any nation (Odo *et al* .2017). Technical education has been an integral part of national development in many societies because of its impact on productivity and economic development. Also technical education is education that prepares people for specific trades, crafts, technical or professional position in engineering, accountancy, nursing, medicine, architecture, pharmacy, law and many others (Odo *et al* .2017). The researchers discussed the dearth of skilled technical manpower in Nigeria and its effect on the technological development of the nation. It advocates for a comprehensive revitalization of technical education in Nigeria to promote workforce partnership needed to develop innovative approaches or replicate models that operationally demonstrate the society needs (Odo *et al.* 2017). The study suggested that there should be efforts and ways by both the government and individuals to train and produce the manpower for the achievement of the nation (Odo *et al* .2017). Yet these researchers did not suggest an example of any innovative model for technical education. The researchers too did not specify what strategies teachers should use in order to prepare learners for specific trades.

Technical education has an impact on productivity and economic development because learners are taught practical skills which enable them to work in different trades. But the researchers did not focus on strategies which teachers should use in order to enhance technical education and to prepare learners for specific trades, while the current study investigated

London Journal of Research in Humanities and Social Sciences

strategies used by teachers for the implementation of practical skills for the realization of Vision 2025 among secondary school learners, which is essential in solving the problem of unemployment for those who finish secondary education.

Additionally, Rafai *et al.* (2014) did a study on Assessment of Teaching Methods that Influence the Acquisition of Practical Skills in Nigeria. The study identified different practical teaching methods which teachers could use in enhancing practical skills. These methods included organizing fieldtrips, organizing discussions, making demonstrations and simulations. Therefore, the researchers recommended that teachers and administrators in the schools should be encouraged to use different instructional methods which were most significant determinants of teaching methods that influenced the acquisition of practical skills. Thus, the learners could acquire the practical skills for gainful employment in the labour market or be able to establish on their own and become self-reliant. The researchers only identified strategies or teaching methods which enhanced practical skills, but did not say which strategies teachers in Nigeria commonly used to enhance practical skills. The current study investigated the common teaching strategies which teachers use for effective implementation of practical skills among secondary school learners in Kilimanjaro region.

According to Hamamba and Rao (2017) in their study on 'Preparation and Professional Development of Teacher Educators in Tanzania: Current Practices and Prospects', the study critically examined teacher educators' preparations and professional development in the context of educational reforms and mushrooming of teacher education institutions in Tanzania. The researchers used document review method to review relevant literature and analyze the data.

The findings indicated that preparation of teacher educators in Tanzania received considerable attention and focus in undergraduate programmes with little attention in postgraduate programmes. The professional development of

teacher educators was limited and characterized by few professional development activities. The researchers suggested that preparation of teacher educators should be well structured and enhanced with effective professional development activities and opportunities.

Referring to Hamamba and Rao (2017), teachers should be provided with practical skills that would help them teach the learners more effectively and acquire practical skills too. The researchers too did not identify the type of practical skills to be taught to teachers in order to teach well practical skills among learners. In this study the researcher investigated the common practical skill activities such as farming, needlework which secondary school teachers were using in teaching practical skills among learners because it seemed that some learners finish secondary education without the practical skills and cannot be employed nor employ themselves, why? Was it that teachers were not taught practical skills and therefore could not teach practical skills among learners or there was another reason? These concerns too were addressed in the present study.

In the same vein, Mtebe *et al.*(2018) did a study on Eliciting in-service Teacher's Technological Pedagogical Content Knowledge for 21st Century Skills in Tanzania. The study adapted Technological Pedagogical Content Knowledge (TPCK) for the 21st Century skills to investigate teachers' competence levels of 21st Century skills using self-reported survey and classroom observations from a sample of 132 teachers in 20 schools in Pwani and Morogoro Regions. The study found out that many teachers had moderate self-reported confidence in all TPCK elements with technology. Conversely, teachers' self-reported confidence levels, TPCK, was found to be high. The findings provided valuable insights on how teachers used ICT to prepare learners for 21st Century skills capable of supporting the country's efforts towards an industrial economy. According to Mtebe *et al.* (2018) implementation of practical skills in the realization of Vision 2025 was being supported by the government through improving ICT infrastructures in schools and increasing ICT

Review of Empirical Studies on Assessment of Implementation of Practical Skills in the Secondary School Curriculum for the Realization of Vision 2025 among Secondary School Learners in Kilimanjaro Region, Tanzania

18 | Volume 22 | Issue 12 | Compilation 1.0 © 2022 London Journals Press

awareness among teachers and learners .The researchers did not identify what other 21st Century skills were and what strategies teachers could use to effect the 21st century practical skills for the realization of Vision 2025 neither did the researchers identify challenges facing ICT in teaching and learning. The current study however investigated common practical skills including digital literacy developed by secondary school teachers among secondary school learners for the realization of Vision 2025.This study also investigated the challenges facing ICT and the findings of the study revealed that secondary schools are faced with inadequate ICT facilities. The current study too investigated the strategies used by secondary school teachers and common practical skills developed by secondary school teachers among learners for the realization of Vision 2025.

Lupeja (2017) did a study which examined the contribution of secondary education knowledge, and skills in enhancing self-employment in informal sectors among graduates residing in Mvomero District, Tanzania. The researcher used quantitative research approach where stratified sampling was used to obtain 400 participants including both primary and secondary education graduates who were working in informal sectors as entrepreneurs and peasants (Lupeja, 2017).

This was followed by systematic sampling in order to randomly select participants from each stratum. Self-administered structured questionnaire was used to elicit opinions from participants on the impact of skills and knowledge acquired at school in poverty reduction. The data was analyzed using Whitney U-test, (Lupeja ,2017).

The results of the study showed that secondary education had a potential in poverty reduction as the knowledge and skills acquired by graduates during schooling were helpful in managing and opting for a payable economic activity (Lupeja , 2017).

The study too revealed that teaching, learning, and the curriculum content itself were not sufficient to prepare competent candidates in the

informal sector. What had been taught were the basic skills which could not prepare a candidate to be competent enough in the informal sector, Lupeja (2017); such informal sector activities included street vendors operating small businesses such as shops. This meant that graduates did not acquire enough practical skills for the informal sector activities which they preferred. Also the researcher did not suggest what skills should then be taught to secondary school learners in order to employ themselves in the informal sector well. Though the curriculum claimed to prepare learners to be productive, entrepreneurial and could address challenges emanating from the prevailing socio-economic situation, TIE (2013), what had been done in the classroom did not reflect the policy statements.

Secondary education graduates preferred nonfarm activities and informal activities as reported by Lupeja (2017) and (World Bank , 2015). The report observed that a nonfarm economic activity in rural Tanzania had been associated with the decline of poverty,(Lupeja ,2017).The informal activities included street vendors, hair salons and managing small shops. Lupeja and Gubo (2016) commented that secondary school education could be a strategic and effective tool in poverty reduction. Lupeja and Gubo (2016) also commented that secondary school graduates preferred non- farm activities which were associated with poverty reduction. But the findings of the current study revealed that secondary school graduates preferred farming which is contrary to(Lupeja, 2017).Thus the current study investigated the practical skills which secondary school learners in Kilimanjaro Region were exposed to in order to be competent in both farm activities and informal activities such as farming and managing a small shop.

Perception of teachers towards implementation of practical skills for the realization of Vision 2025 Researchers, Thurlings and van Diggelen (2021) conducted a study on Perceptions of practical knowledge of learning and feedback among academic teachers, Eindhoven University of Technology, Netherlands. The study explored and focused on how engineering academic teachers perceived their practical knowledge on learning

and feedback. The study used structured interview of 15 participants including 6 Education Directors and 9 engineering academic teachers. The findings of the study revealed elements of a cognitivist view on learning and feedback recognized in all academic teachers' practical knowledge. The findings too revealed learning profile which was more student centered than teacher centered perspectives while the constructivist profile considered more student centered perspectives (Thurlings and van Diggelen, 2021). The study concluded that learning theories can be recognized in teachers perceptions of their practical knowledge on learning and feedback and appear useful for profiling these cognitive perceptions. (Thurlings & van Diggelen, 2021).The researchers focused only on perceptions of practical knowledge of learning and feedback of engineering academic teachers and not teachers perceptions on practical skills. The present study however focused on the perception of teachers and learners in Kilimanjaro Region on the implementation of practical skills among learners for the realization of Vision 2025.

Similarly, Ramnarain (2014) study investigated the perception of physical sciences (physics and Chemistry) teachers on the implementation of inquiry-based learning at a diversity of high schools in South Africa. The aim of the study was to explore teachers perceptions of physical sciences from diverse school settings on these benefits: learner autonomy and teacher competence in that a teacher has to have a deep understanding of the scientific process, (Ramnarain ,2014).The study adopted sequential explanatory mixed methods design which involved quantitative data collections using questionnaires and then qualitative data followed. The sample comprised 220 township schools, 220 sub urban schools, 150 urban schools and 70 rural schools. Results of quantitative data were compared with the qualitative findings. The findings showed that teachers in all schools believed that inquiry-based learning develops experimental and skills that make science enjoyable (Ramnarain, 2014). Also the findings showed that teachers in all locations had positive perceptions of inquiry-based learning that included the development of experimental skills and making science enjoyable. However, teachers in township and rural schools believed a didactic approach to be more effective than learners doing inquiry while teachers in sub urban and urban schools favoured an inquiry based approach (Ramnarain, 2014).

Challenges found in the study were lack of resources, large classes and limited exposure to inquiry of learners in township and rural schools. The study dealt with physical sciences teachers only whereas the present study dealt with teachers teaching practical skill subjects other than the physical sciences such as agriculture, building construction and business studies.The c Ramnarain's study was also done outside of Tanzania context.

Oloyede and Sihlongonyane (2017) did a study on Perceptions of Teachers on Psychosocial life skills in the secondary School siSwat Crriculum in Swaziland. According to Oloyede and Sihlongon-yane (2017), contented that the personal skill, which was mostly promoted, was self- awareness. Yet the learners also needed the other personal skills which include coping with emotions and coping with stress so that they could survive the various challenges that they might encounter daily.

The findings revealed that most of the teachers admitted to be aware of psychosocial life skills and that the life skills that are mostly promoted by the siSwati curriculum were mostly the cognitive life skills which were decision making, followed by problem solving and critical thinking(Oloyede & Sihlongonyane ,2017) . The cognitive life skills were mostly needed by the learners to be able to do well in their academic work. The findings also showed that most of the teachers were aware of effective communication life skills, actually all the teachers were aware of this life skill. The findings also revealed that siSwat teachers were not trained to integrate these life skills in their teaching, they used their general knowledge because there was no teachers' guide to show them how to teach the lesson step by step. The siSwat teachers suggested that they

Review of Empirical Studies on Assessment of Implementation of Practical Skills in the Secondary School Curriculum for the Realization of Vision 2025 among Secondary School Learners in Kilimanjaro Region,Tanzania

20   Volume 22 | Issue 12 | Compilation 1.0   © 2022 London Journals Press

needed training in order to integrate life skills in their lessons (Oloyede & Sihlongonyane, 2017)

The study done by Oleyede and Sihlongonyane (2017) revealed that life skills promoted by the siSwat Curriculum are mostly cognitive life skills which are decision making, problem solving and critical thinking which helped the learners to perform well academically. The researchers concentrated only on cognitive life skills and neglected the psychomotor skills developed from practical skill activities such as carpentry which are also important in enhancing practical skills. The current study investigated the practical skills both cognitive and psychomotor skills developed among secondary school learners in Kilimanjaro Region.

Mwalongo (2011) Dar es Salaam, Tanzania, conducted a study on ,Teachers Perceptions about ICT for Teaching Professional Development Administration and Personal Use. The study revealed that many teachers 61.6 percent acknowledged the use of ICT in teaching and learning since it had positive impact on their learners' learning, 3.2 percent had negative perception on the use of ICT in teaching while 29 percent had mixed feelings and 3.2 percent did not know the impact of ICT on their students' learning. It was possible that the teachers who did not know the impact of ICT on their learners' learning were those who did not use ICT for teaching.

The findings also showed that the search for information (materials) from internet promoted some innovation to learners, the use of ICT also broadened learners' understanding of the subject matter and helped learners to search different materials. It was found too that ICT were also a source of distraction since learners might be carried away by non-related issues example searching issues about musicians (Mwalongo, 2011). Basing on the findings, the use of ICT was essential for professional development since it helped the teachers to study for themselves and access materials for their assignments, this ultimately increased their confidence in their areas of specialization. According to the findings, teachers did not use ICT to radically change their

pedagogical practices, instead ICT in some cases were used to maintain teachers' traditional pedagogical practices (Mwalongo,2011).

The study revealed that many teachers 61.6 percent acknowledged the use of ICT in teaching and learning since it had positive impact on the learners learning. The researcher did not say why some teachers did not acknowledge the use of ICT in teaching and learning and what should be done to them in order to use ICT because it was important that all teachers acknowledge it. But the present study investigated the perception of secondary school teachers in Kilimanjaro Region towards the use of ICT in teaching and learning for implementation of practical skills for the realization of Vision 2025; and the study found that all teachers in the sampled schools were integrating ICT with teaching and learning.

Kinyaduka (2014) conducted a study which examined secondary school teachers and learners perceptions on preference of curriculum and the role of the then secondary schools in Dodoma. The study examined whether learners and teachers preferred comprehensive or general education curriculum and whether the curriculum prepared graduates for the world of work (Kinyaduka,2014) .The study used cross sectional survey research design. Open and closed ended questionnaires were used. The study found that 100 percent of teacher and learner respondents preferred comprehensive curriculum (Kinyaduka, 2014). The findings of the present study also revealed that all teachers preferred the reviewed curriculum (TIE, 2013). The researcher defined comprehensive curriculum as one that caters for learners diverse talents, respond to societal needs, boost the national economy, the graduates would be able to employ themselves and the curriculum would produce multi-skilled graduates. The researcher too recommended establishing pilot secondary schools with comprehensive curriculum in Tanzania.

The study found that the then curriculum did not prepare graduates for the world of work; it prepared them for further education. In other words, it was irrelevant, as it did not respond to the social demands and nation's economic

Review of Empirical Studies on Assessment of Implementation of Practical Skills in the Secondary School Curriculum for the Realization of Vision 2025 among Secondary School Learners in Kilimanjaro Region,Tanzania

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Volume 22 | Issue 12 | Compilation 1.0   21

development (Kinyaduka ,2014).According to the present researcher, ETP(1995) asserts that secondary education prepares graduates for both the world of work and for further education contrary to what the researcher asserts(URT,ETP, 1995). Therefore the problem might be that the Ministry of education and the teachers had not been following the curriculum well.

Challenges faced by teachers and learners in the implementation of practical skills for the realization of Vision 2025 and possible solutions 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).

Bosser *et al*.(2015) conducted a study in Sweden on 'Challenges faced by teachers implementing Socio-Scientific Issues(SSI) as core elements in their classroom practices such as incorporating learner centered 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 centered 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 –centered 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.

A study was done by Machingambi (2017) on, 'Teachers' Perceptions on the Implementation of the Performance Management System in Zimbabwe'. The researcher investigated the perceptions on the implementation of the performance management system in one cluster of high schools in Zimbabwe. Fourty senior teachers were purposely selected to participate in

Review of Empirical Studies on Assessment of Implementation of Practical Skills in the Secondary School Curriculum for the Realization of Vision 2025 among Secondary School Learners in Kilimanjaro Region,Tanzania

22   Volume 22 | Issue 12 | Compilation 1.0

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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 on ways of solving the identified challenges. The current study explored other challenges and possible solutions which faced teachers and learners in implementing practical skills for the realization of Vision 2025.

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 and Msafiri, 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 and Msafiri , 2013). The challenge remained of raising the quality standards in education while sustaining access for all. The researchers 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 possible solutions to the challenges teachers and learners faced in the implementation of practical skills for the realization of Vision 2025 in Kilimanjaro Region.

Siril *et al.* (2013) did 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 for the challenges identified in the implementation of practical skills for the realization of Vision 2025 in the secondary schools in Kilimanjaro Region.

Summary of Literature Review and Identification of the Research Gap Several research studies were reviewed from different parts of the world. Majority of the studies reviewed to mention a few concentrated on implementation of practical skills among learners in general, Odo *et al* (2017) ; Rafai *et al* (2014) and Mtebe *et al* (2018) . Few studies dealt with perceptions of teachers and challenges of teachers in implementing the curriculum such as Bosser *et al* (2015) and Tshabangu & Msafiri,(2013). But none of these studies examined the implementation of practical skills among learners in the context of Vision 2025.Also most of the reviewed studies in this study were conducted outside Tanzania's context and those conducted in Tanzania showed discrepancies due to different factors including little emphasis put on the implementation of practical skill activities such as farming, business studies and carpentry which prepare learners to be self-employed. These studies too did not focus on the secondary school curriculum content whether it had subjects that helped the learners to acquire practical skills and be self-employed on completion of their four years of secondary school education. Moreover, there is no known particular study which has dealt with strategies, perceptions of 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 on whether we are moving towards the attainment of Vision 2025 through secondary education. Therefore, the present study assessed the implementation of practical skills in the secondary school curriculum for the realization of Vision 2025 among learners in secondary schools in Kilimanjaro Region, Tanzania in order to fill the gap.

VII.   FINDINGS AND CONCLUSIONS

This research paper dealt with empirical studies related to the implementation of practical skills among Secondary School learners. The findings revealed strategies such as assigning learners practical skill activities such as farming and developing practical projects such as building construction. There were positive perceptions of teachers and learners towards implementation of practical skills. Teachers perceived the pace of implementation of practical skills to be very fast. Learners were actively engaged in practical skills both physical such as carpentry and generic such as problem solving. Learners were well prepared in practical skills and there was an interlink between practical skills and employment opportunities which could help learners employ themselves or be employed. Hence forth this could reduce the problem of unemployment in Kilimanjaro Region, Tanzania and the world at large. Challenges included difficulty of preparing practical skill activities, inadequate qualified teachers, in adequate practical skill facilities and land for agriculture. Solutions to the challenges included Education planers to plan refresher courses for Secondary School teachers, Government and private owners to plan enough budgets for practical skill facilities, provision of land for agriculture and provision of teaching and learning resources.

London Journal of Research in Humanities and Social Sciences

Review of Empirical Studies on Assessment of Implementation of Practical Skills in the Secondary School Curriculum for the Realization of Vision 2025 among Secondary School Learners in Kilimanjaro Region,Tanzania

24   Volume 22 | Issue 12 | Compilation 1.0   © 2022 London Journals Press

Nyerere's idea of Self Reliance was concerned on how to make Tanzanian youth serve for themselves and the country. Thus learning practical skills as found in the study could solve the problem of unemployment. However what was found in the study was being done in some secondary schools only and we are not sure whether learners will put it into practice. In conclusion, teachers and learners face challenges in the implementation of practical skills curriculum. However , DEOs, heads of schools, teachers and learners have suggested plausible solutions for effective implementation of the same with regard to the realization of Vision 2025.This implies 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.

VIII. RECOMMENDATIONS BASED ON CONCLUSIONS

Basing on the conclusions, the researcher recommends 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. The local community to provide land for Agriculture. Also practical skill subjects such as agriculture, home economics ,computer and building construction could be made compulsory for all secondary school learners in Tanzania to benefit from them.

IX. RECOMMENDATIONS FOR FURTHER STUDIES

Another study could be done on 'Evaluation of community's perceptions towards developing practical skills among secondary school learners for the realization of Vision 2025'.

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Volume 22 | Issue 12 | Compilation 1.0   25

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Abbreviations And Acronyms

DEO   District Education Officer

ESR   Education for Self Reliance ETP
             Education Training Policy

ICT   Information Communication Technology MoEVT
             Ministry of Education and Vocational Training

ORC   Overcoming Resistance to Change

PEDP   Primary education Development Programme SEDP
             Secondary Education Development Programme

STEM   Science, Technology, Engineering, Mathematics TIE
             Tanzania Institute of Education

Review of Empirical Studies on Assessment of Implementation of Practical Skills in the Secondary School Curriculum for the Realization of Vision 2025 among Secondary School Learners in Kilimanjaro Region,Tanzania

26 Volume 22 | Issue 12 | Compilation 1.0   © 2022 London Journals Press